



**ZIMBABWE LIVESTOCK FOR ACCELERATED RECOVERY AND IMPROVED
RESILIENCY (ZRR)**

Baseline Report

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SOUTHERN AFRICA

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ACRONYMS

| | |
|-------|---|
| CLW | Community Livestock Worker |
| FGD | Focus group discussions |
| FHH | Female-Headed Households |
| Ha | Hectare |
| HDDS | Household Dietary Diversity |
| KII | Key informant interview |
| LPD | Livestock Production Department |
| MAHFP | Months of Adequate Household Food Provisioning |
| MHH | Male-Headed Households |
| RS | Random start |
| ZRR | Zimbabwe Livestock for Accelerated Recovery and Improved Resiliency |

Beneficiary Field Interview



Enumerator Interviewing an goat farmer in Bureha

INTRODUCTION

Background

On May 16, 2012, USAID's Office of Foreign Disaster Assistance (OFDA) and Land O'Lakes International Development signed an agreement for Land O'Lakes to implement the Zimbabwe Livestock for Accelerated Recovery and Improved Resiliency (ZRR) project. ZRR aims to combat the negative effects of years of detrimental government policy and severe economic decline in Zimbabwe, which, coupled with a series of droughts and unpredictable rainfall, have decimated the small livestock sector. Until May 15, 2014, ZRR will provide training in livestock production, restock household herds, build community capacity in rangeland management, develop rangeland management plans, revive the livestock infrastructure and link producers to markets.

The project will target 2,000 households (12,000 individuals), of which at least 30% will be female headed. ZRR will train 6,200 individuals in the selected regions (Manicaland and Matabeleland South) on livestock production and market access, rangeland management and animal health. Given the state of the economic environment and the looming threat of another drought, Land O'Lakes will work to address immediate vulnerabilities brought about by the crippled livestock sector and leverage the powerful impact livestock ownership can have. Issues of vulnerability, post disaster-recovery, and overall resiliency will be addressed, using livestock to stabilize families against shocks.

Local populations recognize the importance of a productive land base, but households frequently resort to detrimental environmental practices, including overuse and poor land conservation, as means to alleviate short-term needs. In addition to improving the overall potential of a livestock asset base, Land O'Lakes will help beneficiaries to improve land management, which will lead to better livestock production and enhanced drought tolerance.

To facilitate monitoring and evaluation of project results, Land O' Lakes initiated a baseline survey aimed at establishing benchmarks for project targets. This report has been prepared to present the major findings of the baseline survey, conducted in July 2012.

Objectives

The objective of the baseline survey is to provide reliable baseline information on livelihoods for the target communities in Buhera, Makoni, Mutare Rural and Mangwe Districts. This baseline data establishes benchmarks against which changes, progress toward achievements and results can be measured. Project activities will be evaluated using verifiable indicators (presented in the Results Framework, Appendix B) during the project implementation phase. The baseline survey collected and reviewed both primary and secondary data.

A household survey, focus group discussions and key informant interviews were conducted to collect information on: (i) demographic characteristics of the household population in the project areas; (ii) asset ownership; (iii) food security; (iv) livestock ownership and goat management; (v) labor activities for livestock; (vi) goat marketing; (vii) household income; and (viii) extension services. The assessment includes sex- and age-disaggregated data on all relevant indicators. The assessment informs the design of activities for all three major project components, which will be reviewed and amended in coordination with the project's technical units. The project design will be informed by the baseline findings to make the project more relevant to the farmer needs. A gender assessment has also been conducted as part of the baseline survey, to identify gender-specific constraints in terms of women participation, access to assets and decision making.

EXECUTIVE SUMMARY

Baseline survey major findings:

- **Household Assets:** Of the total surveyed households, 55.72% own a radio, 73.27% own a mobile telephone, and 41.9% own a bicycle. Regarding farm implements, 44.27% own a scotch cart, 75.58% own a spade, 88.54% own a plough, 96.2% own a hoe and 78.6% own a sickle. The livestock owned by the interviewed households include cattle, goats, sheep, poultry, pigs and rabbits. All the interviewed households own at least one type of livestock; most own goats (93.87%), poultry (92.36%) and cattle (80.91%).
- **Asset Value:** The average value of household assets, which include domestic assets, transport, farm assets and livestock, is US\$1,913.71. For male headed households, this average is US\$1,947.27, for the female headed households, the average is US\$1,775.91.
- **Household Income:** The average annual household income among farmers surveyed is US\$498.64. There were no significant differences in mean annual household income between male- and female-headed households. Male headed households had an average annual income of US\$501.53 and female headed households had an average income of US\$498.64. Regionally, this average is US\$440.29 in Buhera, US\$539.68 in Makoni, US\$498.41 in Mutare Rural, and US\$528.21 in Mangwe.
- **Goat Mortality Rate:** Of the 131 households surveyed, 47 (35.9%) households had at least 1 adult goat death, and 65 (49.6%) households reported at least one kid death over the July 2011 – June 2012 period. The mortality rate for adult goats was 10%, and the kid mortality rate was 27%. The mortalities are lower than the goat mortality reported by other surveys carried out across the country, where goat mortality is as high as 45%. The low mortality rates reported by the surveyed households may have been due to poor record keeping at the farm level.
- **Goat Mortality Factors:** Of the farmers that had goat mortalities in the past year, 78.7% reported that the adult goats died in the summer season, 67.8% of the households reported that kids died in the summer season. During the autumn season 8.5 households reported adult and kids deaths. However the during the winter season more households reported kids

deaths (23.7%) compared to adult deaths (12.8%). The major causes of death in adult goats were reported to be tick-borne diseases (59.6%) and enterotoxaemia (pulpy kidney; 17%). The major causes of death in kids were reported to be tick-borne diseases (62.7%) and enterotoxaemia (pulpy kidney; 16.9%).

- **Goat Nutrition:** Open range grazing is the most common method of grazing, practiced by 93.1% of the farmers. 90.8% of farmers feed their goats on natural pastures and a level of supplementation. The most frequently used supplements are crop residues, which are primarily used during the dry season.
- **Goat Breeding:** The castration rate of male goats among households surveyed is 13%. This low castration rate resulted in uncontrolled breeding which run the risk of inferior breeding practices. These practices can result in inbreeding which reduces animals performance and also kids born when there is a high diseases challenge resulting in higher mortality . In the dry season, breeding is not controlled, as goats mix in communal grazing on natural pastures. During the wet season, when grazing is controlled to avoid destruction of food crops, farmers borrow preferred breeds of bucks for cross breeding. There is however little planning in the breeding.
- **Gender Roles:** In rural areas, small livestock production has generally been regarded as a female role. Women primarily take on forage production (32.8%), feed preparation (36.6%) and kid rearing (49.6%), where the contribution of female labor is more than that of males. Males are generally responsible for construction of livestock shelters (83.2%), veterinary services (31.3%), and transport and marketing (6.9%).
- **Rangeland Management – Leadership Support:** Traditional leadership support of rangeland management practices varies between communities. In Manicaland Province, traditional leadership supports promotion of good rangeland management through establishing bylaws, which create fines for offences such cutting down trees or burning grass. In Mangwe District, however, there are no regulatory instruments.
- **Rangeland Management – Farmer Support:** 57% of the farmers expressed that there was a need to set up fodder banks, start paddocking and improve the pastures. However 13.8% of farmers feel that open range grazing is good for breeding their livestock, as they do not have their bucks.
- **Grazing Plan Rationale:** Key informants indicated that grazing plans implemented during the wet season are established more for the need to protect the field crops than the need to improve grazing areas.
- **Fodder Plots:** 24.4% of the farmers surveyed had established fodder plots. The fodder plots range from 0.03 - 0.5 hectares (ha); farmers generally plant star grass and Lucerne. The average land area under forage crops is small, averaging 0.05ha (standard deviation ± 0.12 ha).
- **Goat Markets:** Farmers generally do not access formal markets, but rather sell goats locally amongst themselves. In Mangwe district, there is a private buyer, Grills Abattoir, which buys the goats at \$1 per kg. The local market is quick and readily available, stock clearance procedures are fast, and sales do not attract council levies. Prices are negotiable, there are no

transport costs, and goats can be exchanged for food. While the local market has many advantages, it reflects farmers' unwillingness to plan timing for goat marketing and their failure to agree on a group marketing strategy within the goat associations. The use of goats as a source of immediate cash results in a lower price is well documented.

- **Extension Services:** Farmers primarily rely on government extension officers and the Community Livestock Workers (CLWs) for livestock and crop advice. In Mutare Province Districts (Mutare Rural, Buhera and Makoni), there is a Government Extension officer and a CLW (trained by Land O'Lakes in 2010) in each ward. In Mangwe District, however, there is just one Livestock Production Department (LPD) officer for the district. Farmers have expressed concerns about the reliability of the extension services provided by the CLWs. Generally, certified government officers are more reliable for extension services than the CLWs, especially since the CLWs were trained only once.
- **Food Security:** Households generally have poor food self-sufficiency between September and February. Staple foods are acquired through self-production and purchase using income and especially in areas like Mangwe where there appears to be is perennial food insecurity.

METHODOLOGY

The baseline survey was designed to cover both quantitative and qualitative components, in order to capture improvements in livelihoods resilience and security through improved access to livestock productivity and marketing, environmental sustainability, and access to extension services. The following sections outline the survey's approach and methodology.

Sample Size

The sample size was based on the formula shown in the figure below.

| $n = D [(Z_{\alpha} + Z_{\beta})^2 * (sd_1^2 + sd_2^2) / (X_2 - X_1)^2]$ | |
|--|---|
| KEY: | |
| n | = required minimum sample size per survey round or comparison group |
| D | = design effect for cluster surveys (use default value of 2, as discussed in Section 3.4) |
| X ₁ | = the estimated level of an indicator at the time of the first survey or for the control area |
| X ₂ | = the <i>expected</i> level of the indicator either at some future date or for the project area such that the quantity (X ₂ - X ₁) is the size of the magnitude of change or comparison-group differences it is desired to be able to detect |
| sd ₁ and sd ₂ | = <i>expected</i> standard deviations for the indicators for the respective survey rounds or comparison groups being compared |
| Z _α | = the z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size (X ₂ - X ₁) would not have occurred by chance (statistical significance), and |
| Z _β | = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size (X ₂ - X ₁) if one actually occurred (statistical power). |

Sample Size¹

Information from the USAID Rebuilding Livelihoods and Resilience in Zimbabwe program, as well as expected targets from the ZRR proposal, were used as parameters to estimate the sample size. Further, a contingency rate of 10% was used to cover for drop-outs and other contingencies. As recommended, main indicators and targets were used to estimate the sample size to statistically calculate the average value of baseline and expected change post-intervention. To ensure compliance, value of productive assets was used to estimate the sample size at the producer level.

| MEAN AVERAGE DETECTING CHANGE | | |
|--|-------------------------|--------------------|
| Variable | Value of goat herd size | |
| Entity | Households | |
| Cluster Sampling? | Y | |
| D | 2 | |
| Average (Reference) | 210.30 | |
| Std Dev (Reference) | 103.20 | |
| X1 | 210.30 | |
| Variance from X1 to X2 | 25% | |
| X2 | 262.88 | |
| sd1 | 103.20 | |
| sd2 | 129.00 | |
| 1 - alfa | 95.0% | |
| 1 - beta | 80.0% | |
| Z alfa | 1.645 | |
| Z beta | 0.842 | |
| n: Sample elements (Large Pop) | 122.1 | |
| Finite Population (N): | 2,000.00 | # of beneficiaries |
| n/N | 6.1% | |
| n: Sample elements (Finite Pop) | 118.5 | |
| n: Sample elements (Households) | 118.5 | |
| Minimum Sample Size (30) | 118.5 | |
| Contingencies | 10% | |
| n: Sample elements (Households) | 130.4 | |
| Elements / HH: | 1 | |
| Number of HH | 130.4 | |
| Number of clusters (30; 30 to 50+) | 1 | |
| HH / Cluster (50; 40 to 50) | 130.4 | |
| n: Sample elements (HHs) | 130.4 | |
| n: Sample elements (HHs) in pop | 130.4 | |
| n: Sample elements (Households) | 130.4 | |

¹ This figure was taken from: Robert Magnani - Sampling Guide - December 1997

Sampling Procedure

Evaluators drew a sample of 131 households across the four targeted districts using a multi-stage cluster sampling design. In the first stage, village clusters within a ward were used as primary sampling units, followed by a linear systematic sampling of 2,000 households. A household frame was constructed using a list of all the households in the producer groups, and the names were sorted alphabetically. In order to systematically select the households, the Sampling Interval (SI) was calculated by dividing the total number of households in the frame (N) by the desired sample size (n). Given that $N=2,000$ and $n=131$, the sampling interval ($2,000/131$) was 15.267.

After calculating the SI, the random start (RS) was determined by selecting the number between 1 and the integer of SI inclusive. Since 1 is the 1st integer, household number 1 was taken as a RS. Remaining households were selected by adding the RS to the SI.

Questionnaire Development

Evaluators developed a set of quantitative and qualitative questionnaires to collect primary and secondary data. A structured questionnaire was developed to gather quantitative data, and focus group discussions (FGDs) and key informant interviews (KIIs) were used to capture qualitative data. Questionnaires used are attached as Appendix G.

Data Development

Data was collected over a period of two weeks. A total of five Land O' Lakes staff, plus three enumerators were recruited from each district and were trained for one full day on how to administer the baseline instruments. The field staff was organized into two teams and was deployed to the 4 districts. One team was made up of three Land O'Lakes staff and three enumerators, and the other with two Land O'Lakes staff and three enumerators.

Data Processing and Analysis

The data entry process began with manual editing of the completed questionnaires, followed by electronic data entry using Microsoft Excel. Completed questionnaires were randomly checked and data was re-coded if inaccurate, to ensure 100% verification. Minitab 16 was used to analyze the questionnaire data. Both descriptive and analytical studies were conducted, including the production of cross tabulations between variables. Qualitative data was consolidated for the key informants and focus group discussions. This data was used to triangulate information for the baseline.

Limitations

Because of time constraints, in the event that a sampled household head was not available for interviews, the team did not return to the household. Instead, the researchers replaced the

household with the nearest household in sight. This process, while common in survey collection, may have compromised the statistical effects arising from the sampling process.

To circumvent this problem, the research team attempted to make appointments with sampled households whenever possible. However, those receiving notice of an appointment to interview may have planned in advance how to ‘handle’ questions. Respondents generally show reluctance to provide accurate information about their income; it is worth noting that the true income of surveyed households should be cautiously interpreted.

MAJOR RESEARCH FINDINGS

RESULTS

Sample Characteristics

The baseline survey covered 131 households in four districts, of which 27 (21%) were in Mutare Rural District, 56 (43%) were in Buhera District, 37 (28%) were in Makoni District, and 11 (8%) were in Mangwe District (See Table 1). Female-headed households made up 19% of the sample. 57.3% of the households had household-heads below the age of 55. 61.8% of the household-heads were in monogamous marriages, 18.3% in polygamous marriages and 19% were widowed and 1% single.

Table 1: Household Sample Characteristics

| Characteristics | | Districts | | | | Total/Average |
|--|----------------------|--------------|--------|--------|--------|---------------|
| | | Mutare Rural | Buhera | Makoni | Mangwe | |
| Total Number of Households | | 27 | 56 | 37 | 11 | 131 |
| % of Total Households | | 21% | 43% | 28% | 8% | 100% |
| % of Female-Headed Households | | 22.2% | 12.5% | 18.9% | 45.4% | 19% |
| Household Heads Below 55 Years of Age | | 40.7 | 50 | 75.6 | 72.7 | 57.3 |
| Marital status | Monogamously Married | 63% | 66% | 59.4% | 45.4% | 61.8% |
| | Polygamous marriage | 14.8% | 17.8% | 18.9% | 27.2% | 18.3% |
| | Widowed | 22.2% | 16% | 18.9% | 27.2% | 19% |
| | Single | 0% | 0% | 2.7% | 0% | 1% |

Household Demographic Characteristics

Household sizes ranged from 1 to 38, with an average household size of 7.15. Average household sizes across districts ranged from 7.2 in Makoni to 6.85 in Buhera (See Table 2).

Table 2: Household Sample Characteristics

| Characteristics | | Districts | | | | Average across all sites |
|---|--------|--------------|--------|--------|--------|--------------------------|
| | | Mutare Rural | Buhera | Makoni | Mangwe | |
| Average Household Size | | 7.15 | 6.86 | 7.2 | 7.09 | 7.15 |
| Average Number of Children Under 12 | Male | 1.44 | 1.39 | 1.46 | 1.7 | 1.44 |
| | Female | 1.48 | 1.52 | 1.61 | 1.2 | 1.48 |
| % of households with children below 12 | | 88.89% | 94.6% | 91.8% | 90.9% | 92.4% |
| Average Number of people aged above 12 | Male | 2.05 | 2 | 2.05 | 1.7 | 2.05 |
| | Female | 2.2 | 1.98 | 2.12 | 2.4 | 2.23 |
| % of Households with Chronically Ill People | | 4% | 14% | 8% | 4% | |

Household Asset Ownership

There was a significant difference in household asset ownership between male- and female-headed households. Female-headed households (FHH) own less household assets as compared to male-headed households (MHH). Of the total surveyed households, 55.72% own a radio, 73.27% own a mobile telephone, and 41.9% own a bicycle. Regarding farm implements, 44.27% own a scotch cart, 75.58% own a spade, 88.54% own a plough, 96.2% own a hoe and 78.6% own a sickle. 26.69% of the households own a spray, which can be used in spraying goats where there are no goat dip tanks. A very small percentage of households own cookers, refrigerators, water pumps and planters. See Table 3 below for details.

Table 3: Household Asset Ownership

| Asset | FHH% households | MHH% households | Total% households |
|------------------------|-----------------|-----------------|-------------------|
| Household Goods | | | |
| Cooker | 0% | 0.94% | 0.8% |
| Fridge | 0% | 1.89% | 1.5% |
| Radio | 48% | 57.5% | 55.7% |
| Television | 32% | 23.6% | 25.2% |

| | | | |
|-------------------------|------|-------|-------|
| DVD player | 16% | 16% | 16% |
| Mobile telephone | 64% | 75.4% | 73.3% |
| Sofa | 20% | 27.4% | 26% |
| Sewing machine | 28% | 25.5% | 26% |
| Transport | | | |
| Bicycle | 28% | 45.3% | 42% |
| Farm implements | | | |
| Scotch-cart | 32% | 45.3% | 42.7% |
| Spade | 68% | 77.4% | 75.6% |
| Plough | 84% | 89.6% | 88.5% |
| Spray | 8% | 31.1% | 26.7% |
| Water Pump | 0% | 2.8% | 2.3% |
| Planter | 0% | 0.94% | 0.8% |
| Harrow | 2.8% | 11.3% | 11.5% |
| Cultivator | 0% | 10.4% | 7.6% |
| Hoes | 92% | 97.2% | 96.2% |
| Sickles | 64% | 82.1% | 78.6% |

Livestock Ownership

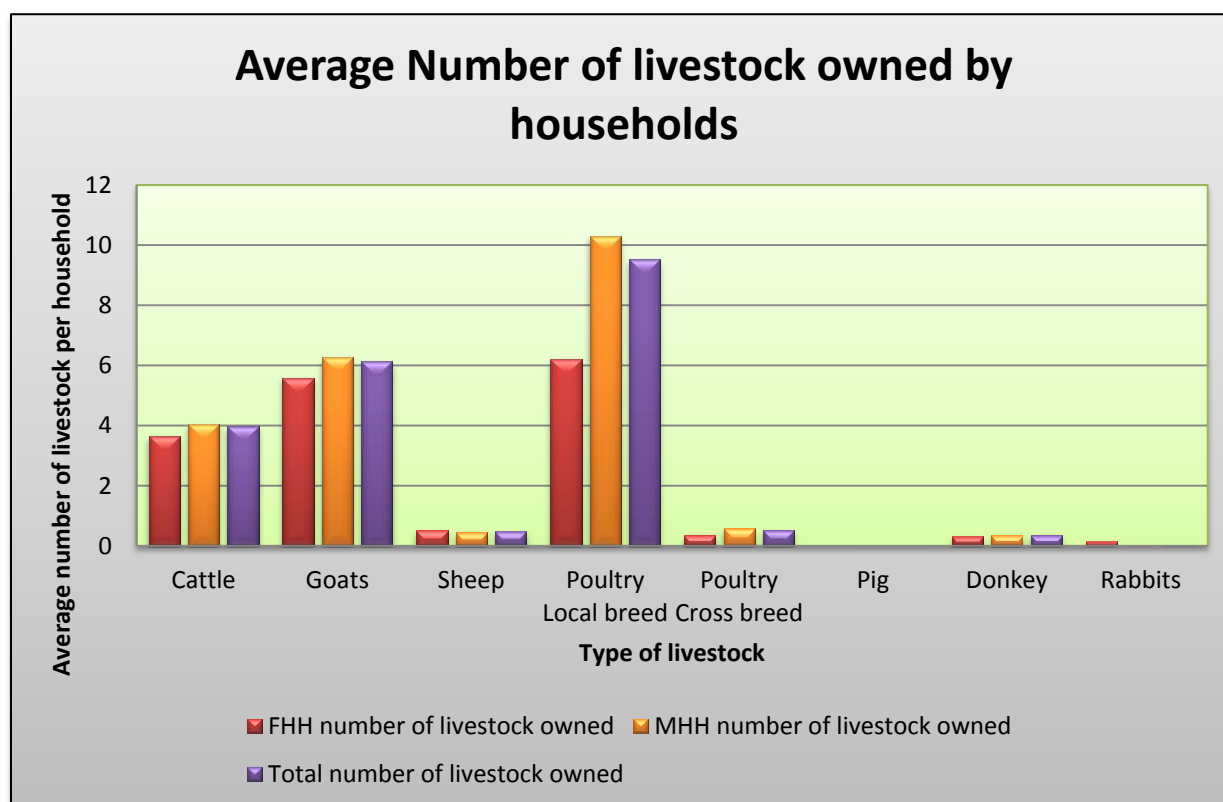
The livestock owned by the interviewed households include cattle, goats, sheep, poultry, pigs and rabbits. All interviewed households owned at least one type of livestock; most own goats (93.87%), poultry (92.36%) and cattle (80.91%).

Table 4: Household Livestock Ownership

| Livestock | FHH% households | MHH% households | Total% households |
|----------------------|------------------------|------------------------|--------------------------|
| Cattle | 68% | 83.96% | 80.9% |
| Goats | 96% | 75.57% | 93.9% |
| Sheep | 8% | 9.4% | 9.2% |
| Poultry Local | 88% | 93.4% | 92.4% |
| Poultry Cross | 4% | 1.9% | 2.4% |
| Pig | 0% | 0.94% | 0.8% |
| Donkey | 12% | 9.4% | 12.2 |
| Rabbits | 4% | 0.94% | 1.5% |

Graph 1 below illustrates the average number of livestock owned by each of the surveyed households, disaggregated by the gender of the household head. Moving forward, these baseline measurements will be important for the project's targeting of livestock for veterinary interventions and rangeland management. Appendix C shows the average livestock ownership according to the district.

Graph 1: Household Asset Ownership



Value of Assets by Gender

The average value of household assets which include domestic assets, transport, farm assets and livestock is US\$1913.71. For male headed households, this average is US\$1947.27, for the female headed households, the average value of assets is US\$1775.91.

Average value of productive Assets

The average value of productive assets which include livestock and farm assets is US\$1730.25. For the male headed households, this average is US\$1592.45, for the female headed households this average is US\$1762.9

Table 5 shows the value of assets according to district.

Table 5: Asset Ownership According to District

| Asset | Buhera % of households | Makoni % of households | Mutare rural % of households | Mangwe % of households |
|------------------------|------------------------|------------------------|------------------------------|------------------------|
| Household Goods | | | | |
| Cooker | 1.8% | 0% | 0% | 0% |
| Fridge | 1.8% | 0% | 3.7% | 0% |
| Radio | 57.1% | 56.8% | 55.6% | 45.5% |
| TV | 21.4% | 18.9% | 40.7% | 27.2% |
| DVD player | 12.5% | 10.8% | 33.3% | 9.1% |
| Cellphone | 75% | 70.3% | 74% | 72.7% |
| Sofa | 26.8% | 16.2% | 44.4% | 9.1% |
| Sewing machine | 21.4% | 18.9% | 48.1% | 18.2% |
| Transport | | | | |
| Bicycle | 44.6% | 43.2% | 29.6% | 54.5% |
| Farm implements | | | | |
| Scotch-cart | 44.6% | 40.5% | 37% | 54.5% |
| Spade | 66% | 81.1% | 88.9% | 72.7% |
| Plough | 91% | 91.9% | 85.2% | 72.7% |
| Spray | 10.7% | 27% | 29.6% | 9.1% |
| Water Pump | 5.3% | 0% | 0% | 0% |
| Planter | 0% | 0% | 3.7% | 0% |
| Harrow | 7.1% | 10.8% | 25.9% | 0% |
| Cultivator | 7.1% | 13.5% | 7.4% | 0% |
| Hoes | 98.2% | 97.3% | 100% | 81.8% |
| Sickles | 76.8% | 83.8% | 74.1% | 81.8% |

GOAT PRODUCTION AND MANAGEMENT

Goat Health

Farmers surveyed have not developed goat health plans to prevent spread of disease and maintain healthy goats. Farmers expressed that access to veterinary drugs and vaccines was a challenge, as these are not sold locally. Further, while CLWs assist in disease identification, they cannot treat many diseases, as CLWs do not have access to veterinary drugs. Communities do not pay for

CLW services, and hence, it is difficult for the CLWs to purchase drugs on behalf of the farmers. The ZRR project will be looking at possible models to improve the sustainability of CLW service provision according to the area.

Goat Diseases

Farmers expressed a variety of goat disease concerns to the researchers primary concerns were heart water, black leg, red water, Anthrax and sweating sickness. Tick-borne diseases are responsible for the most damage; hence, ZRR will include a dipping program in the project design.

Goat Mortality

The goat mortality rate is very high across sites. Of the 131 households surveyed, 47 reported at least 1 adult goat death over a period of 12 months, and 65 households reported at least one kid death. The mortality rate for adult goats was 10% for the July 2011-June 2012 period. The kid mortality rate was 27% during the same period. The goat mortality rates are lower than the rates reported in other surveys reported across the country where mortalities are as high as 45%. The low goat mortalities reported by the surveyed households might be due to poor record keeping at farm level.

Of the farmers that had goat mortalities in the past year, 78.7% reported that the adult goats died in the summer season (November-March), 67.8% of the households reported that kids died in the summer season (November-March). During the autumn season 8.5 households reported adult and kids deaths (August-October). However during the winter season (April-July) more households reported kids deaths (23.7%) compared to adult deaths (12.8%). The major causes of death in adult goats were reported to be tick-borne diseases (59.6%) and enterotoxaemia (pulpy kidney; 17%). The major causes of death in kids were reported to be tick-borne diseases (62.7%) and enterotoxaemia (pulpy kidney; 16.9%). Other causes were edema, pneumonia and predators.

The high disease prevalence during the summer months is a result of tick infestation during the rainy season; goats, in particular, are highly susceptible to heart water, resulting in the high summer mortality rates. Additionally, during the summer months, grazing grasses improve. While highly nutritious, these grasses can lead to an increase in the bacteria that causes the pulpy kidney disease.

These problems are exacerbated by the unavailability of goat dip tanks and the low dipping rates, which in turn result in the high prevalence of the tick borne diseases (See Graph 2).

Graph 2: Veterinary Interventions

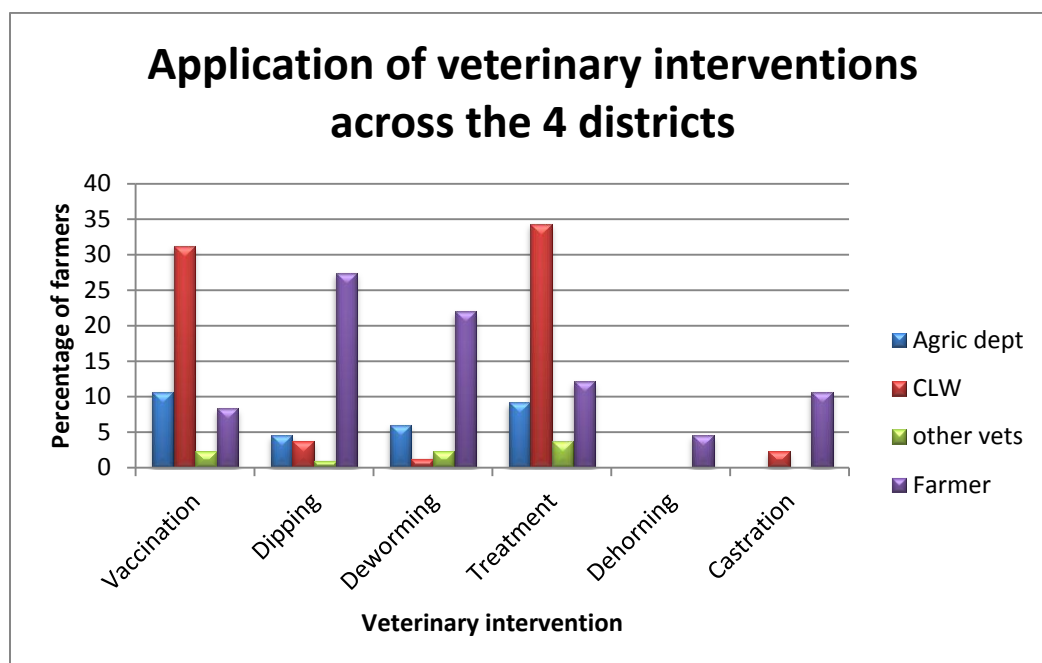


Table 6: Veterinary Interventions by District and Source

| Vet Intervention | District | Agric dept | CLW | other vets | Farmer |
|--------------------|--------------|------------|--------|------------|--------|
| Vaccination | Buhera | 17.86% | 28.57% | 3.57% | 7.14% |
| | Makoni | 10.81% | 29.73% | 0.00% | 10.81% |
| | Mutare rural | 0.00% | 51.85% | 3.70% | 3.70% |
| | Mangwe | 0.00% | 0.00% | 0.00% | 9.09% |
| Dipping | Buhera | 5.36% | 7.14% | 0.00% | 19.64% |
| | Makoni | 5.41% | 0.00% | 0.00% | 43.24% |
| | Mutare rural | 3.70% | 3.70% | 0.00% | 25.93% |
| | Mangwe | 0.00% | 0.00% | 9.09% | 18.18% |
| Deworming | Buhera | 3.57% | 8.93% | 1.79% | 21.43% |
| | Makoni | 10.81% | 5.41% | 0.00% | 29.73% |
| | Mutare rural | 7.41% | 37.04% | 3.70% | 14.81% |
| | Mangwe | 0.00% | 0.00% | 9.09% | 18.18% |

| | | | | | |
|-------------------|--------------|--------|--------|-------|--------|
| Treatment | Buhera | 10.71% | 33.93% | 8.93% | 10.71% |
| | Makoni | 13.51% | 32.43% | 0.00% | 18.92% |
| | Mutare rural | 3.70% | 51.85% | 0.00% | 0.00% |
| | Mangwe | 0.00% | 0.00% | 0.00% | 27.27% |
| Dehorning | Buhera | 0.00% | 0.00% | 0.00% | 8.93% |
| | Makoni | 0.00% | 0.00% | 0.00% | 0.00% |
| | Mutare rural | 0.00% | 0.00% | 0.00% | 3.70% |
| | Mangwe | 0.00% | 0.00% | 0.00% | 0.00% |
| Castration | Buhera | 0.00% | 0.00% | 0.00% | 17.86% |
| | Makoni | 0.00% | 2.70% | 0.00% | 10.81% |
| | Mutare rural | 0.00% | 7.41% | 0.00% | 0.00% |
| | Mangwe | 0.00% | 0.00% | 0.00% | 0.00% |

Table 6 demonstrates that Mangwe District has the lowest percentage of goat veterinary interventions. There are very few veterinary service providers available through the Department of Agriculture, CLWs or other veterinary services. Farmers expressed concerns over the lack of resident government extension workers to researchers during the group discussions; Mangwe District does, have CLWs, though they are relatively inactive.

The numbers in Table 6 concur with the overall sample analysis, which illustrates that CLWs assist farmers more frequently than other veterinary and government officers.

Goat Nutrition

Open range grazing is the most common method of grazing, practiced by 93.1% of farmers. Of the farmers who practice open range grazing, 90.8% of the farmers supplement the natural grazing with crop residues such as maize and sorghum stover, groundnut and cowpea shells. In Makoni, farmers also use acacia pods and leaves to feed goats during the dry season. 2% of farmers practice paddocking. 50.4% of the farmers reported that they had some feed stored in preparation for the dry season.

Goat Breeding Patterns

The goats in the surveyed households breed throughout the year, as illustrated by the number of households reporting the kidding seasons in Table 7. There is no controlled breeding and hence farmers cannot plan on the best season for kidding because the autumn and winter seasons are dry seasons when there is suboptimal forage availability which can lead to low milk yields and lower kid survival and growth. In other studies on goat production in Zimbabwe, it has been shown that there are two major peaks of kidding before the rains in November and after the rains in April.

Table 7: Kidding Seasons

| Season | Summer (November – March) | Winter (April-July) | Autumn (August-October) |
|-----------------------------------|------------------------------|---------------------|-------------------------|
| % of households reporting kidding | 33.6% | 9.9% | 16.8% |

The castration rate among households surveyed is 13%. This low castration rate has given rise to reduced productivity, as inbreeding is prevalent. In the dry season, breeding is not controlled, as goats openly graze on natural pastures. During the wet season, when grazing is controlled to avoid destruction of food crops, farmers borrow preferred breeds of bucks for cross breeding.

Table 8 illustrates an analysis of the breeding patterns of does across the four sites.

Table 8: Goat Breeding Patterns

| Variable | Number of Litter | Age at Kidding | Kidding interval |
|------------------|------------------|----------------|------------------|
| Statistic (Mean) | 1.15 kids | 10.27 months | 8.13 months |

In the survey area, does produce one kid on average at parturition. The average age at first kidding is 10.27 months. The age at first kidding largely depends on the size of the doe and the environment that the doe is subjected to. In areas where the environment is harsh e.g. low nutrition, lack of water the does tend to mature later in their lifespan. For tropical goats the usual mating age, falls between 10-12 months. The kidding interval from the surveyed households is 8.13 months signifying that the goats have the ability to give birth to 3 goats in 24 months. The kidding interval will be mainly affected by the plain of nutrition and nutritional value of the rangeland.

Goat Handling Facilities

Farmers surveyed have a variety of infrastructure for their goats. 93.9% of surveyed households have goat houses. 57.3% of the households have drinking troughs, 32.1% have feeding troughs and 2.3% of households have paddocks.

The results demonstrate that goat housing has been a priority for most households, and protecting goats from weather conditions, predators and stock theft is taken seriously. Paddocking is not widely practiced.

Goat housing infrastructure



Picture 1: Goat structure type 1



Picture 2: Goat structure type 2

Labor

Small livestock production has generally been regarded as a female role in the rural areas. The contribution of women to the goat management practices are shown in Table 9 below. Participants revealed that the women's role is mainly in forage production (32.8%), feed preparation (36.6%) and kid rearing (49.6%) where the contribution of female labor is more than that of males. The males are mainly responsible for construction of livestock shelter (83.2%), veterinary services (31.3%), transport and marketing (6.9%).

Table 9: Goat Labor Activities According to Gender

| Activity | % of Females Performing Activity | % of Males Performing Activity |
|--|---|---------------------------------------|
| Construction of Livestock Shelter | 38.9% | 83.2% |
| Forage Production | 32.8% | 29.8% |
| Feed Preparation | 36.6% | 35.1% |
| Kid Rearing | 49.6% | 46.6% |
| Veterinary Services | 19.8% | 31.3% |
| Transportation /Marketing | 5.3% | 6.9% |

Goat Production Constraints

There are a variety of constraints on goat production in the surveyed regions, which ZRR will take into consideration for project design. These include, but are not limited to:

- Control and management of preventable disease/conditions , especially tick-borne diseases and others such as foot rot, pulpy kidney, worms and pneumonia;
- Lack of business acumen and attitude to goats as an insurance policy not a productive asset.
- Miscarriage rates of 40%- 50% due to a number of factors including preventable diseases;
- No little control over breeding season so not allowing improved management techniques such as strategic supplementation
- Predators, such as dogs, hyenas and jackals;
- Poor access to veterinary drugs and vaccines, as there are no agro-dealers within the local communities, but only in larger towns;
- Inbreeding and genetically inferior bucks, resulting in poorer viability, small goats and reduced values;
- Shortage of drinking water for the livestock in the dry season, especially in Mangwe District; and
- High adult goat and kid mortality rates, resulting in lower than possible herd growth.

RANGELAND MANAGEMENT**Livestock Grazing Plans**

Farmers in focus group discussions indicated that they use natural pastures and fallow fields as grazing land during the dry season. During the wet season, farmers control their livestock, using a simplified community grazing plan to avoid destruction of crop fields with the use of tethering

and herding. Traditional leadership support of rangeland management practices varies between communities. In Manicaland Province, traditional leadership supports promotion of good rangeland management through establishing by-laws, which create fines for offences such as cutting down trees or burning grass. In Mwange District, however, there are no regulatory instruments.

57% of the farmers expressed that there was a need to improve the pastures and set up fodder banks and start paddocking to improve pastures. 8% of farmers felt that there was a need to set up grazing plans. However, 13.8% of farmers felt that open range grazing is good for breeding their livestock, as they do not have their own bucks.

The key informants expressed that grazing plans implemented during the wet season have been necessitated by the need to protect the field crops, rather than the need to improve grazing areas. ZRR will seek to address this through training and encouragement of year-round grazing plans.

Table 10: Grazing Area Decision Making by Season

| | Dry season | Wet season |
|--|------------|------------|
| Male Head of household | 58 | 43.6 |
| Female head of household | 19 | 17.6 |
| Females in male headed households | 3.8 | 3.1 |
| Community | 19.2 | 35.7 |
| Total | 100 | 100 |

As illustrated in Table 10, while there is free-range grazing in the dry season, there is a higher rate of individual households' decision making on where to graze their livestock. During the dry season, 19.2% of households partake in community grazing decisions. During the wet season, community decision making increases to 35.7%, showing an increased interest in planned grazing, in an effort to avoid crop destruction by livestock.

Fodder Establishment

The survey indicated a limited level of fodder establishment, whereby 24.4% of the farmers are growing some amount of fodder. The fodder plots range from 0.03 - 0.5 hectares; farmers generally plant star grass and Luckena. The average land area under forage crops is small, averaging 0.05ha (standard deviation ± 0.12 ha).

Table 11: Fodder Establishment by District

| District | % of Farmers Establishing Fodder | Average number of hectares per household |
|--------------|----------------------------------|--|
| Buhera | 5% | 0.01 |
| Makoni | 40% | 0.11 |
| Mutare Rural | 40% | 0.05 |
| Mangwe | 27% | 0.07 |

Very few farmers in Buhera district have established fodder crops, as shown by the analysis in Table 11. The farmers in the remaining three districts produce fodder, albeit on a small scale.

Rangeland Management Constraints

There are a variety of constraints to rangeland management in the surveyed districts, all of which ZRR will consider and seek to mitigate in program design. These challenges include:

- Inadequate management of rangelands , as a result of overgrazing;
- Droughts, causing drying of grazing lands;
- High stocking rates close to water, especially in dry season;
- Human settlements encroaching the grazing land;
- Threat of predators in the veld;
- Quick spread of diseases as livestock mix on communal grazing;
- Lack of controlled breeding programs;
- Threat of stock theft; and
- Inadequate water for livestock in the veld.

GOAT MARKETING

Both FGD and household survey revealed that farmers generally do not access formal markets, but rather sell goats amongst themselves as shown in table 12 below. 9.16% of the farmers sell their goats at formal auctions at the rural district cattle pens. In Mangwe district, there is a private buyer, Grills Abattoir, which buys the goats at \$1 per kg. The local market is quick and readily available, stock clearance procedures are fast, and sales do not attract council levies. Prices are negotiable, there are no transport costs, and goats can be exchanged for food.

While the local market has many advantages, it reflects farmers' unwillingness to plan timing for goat marketing and their failure to agree on a group marketing strategy within the goat associations. Emergency sales at exorbitantly low prices are still prevalent, serving as a stark reminder that there are disadvantages to farm gate sales. Farmers selling goats informally face poor repayment of credit sales, low prices and no regulatory measures to curb selling of stolen goats. Further, neighboring farmers may sell off poor breeds within the community, negatively

affecting the goat breeds in the area. ZRR will build the capacity of farmers to engage in planned goat production and marketing.

Table 12: Goat Marketing Channels

| Market Channel | Farm Gate | Rural District Council Cattle Pens | Business Centres |
|-------------------------------|-----------|------------------------------------|------------------|
| % of Households Reporting Use | 66.42% | 9.16% | 24.42% |

Table 12 shows that farmers primarily sell their goats at farm gate. Other options are the Rural District Council cattle pens; although they are less frequently used as the marketing is planned; therefore no ad-hoc sales take place. The goat farmers have not yet adopted planned production and marketing of goats and still use their goats for emergency sales purposes when they need cash. Appendix D illustrates the marketing channels according to the district.

Buyers are predominantly livestock traders, local consumers and local farmers seeking to improve their goat flocks.

35.9% of interviewed households have sold at least one goat in the past year. The average number of goats sold over the 12 month period from July 2011 to June 2012 was 0.82 (standard deviation ± 1.33).

Table 13: Advantages and Disadvantages of Goat Sale Options

| | Advantages | Disadvantages |
|------------------------|---|---|
| Farm Gate | No goat or market levies | Non-competitive pricing resulting in low prices |
| | Emergency selling so that the farmer can raise cash anytime they want to sell goats | Usually sales are on credit and it is sometimes difficult to get the full price of the goat |
| | | Farmers cannot sell more than 2 goats at a time |
| | | There is no police clearance and hence stolen goats can be sold at farm gate |
| | | There is no breed improvement if selling genetically inferior bucks to neighbors |
| Business Centre | Competitive prices which result in higher prices | High transport costs and levies |

| | | |
|------------------------|--|--|
| | Cash sales | Stock theft at the market |
| | | It is difficult for the farmer to negotiate a price if s/he is desperately in need of cash |
| RDC Cattle Pens | Competitive prices which result in higher prices | Markets are convened once a month and therefore farmers need to plan for sales but planned marketing is not yet common amongst the farmers |
| | Group sales | Stock theft at the market |
| | Cash sales | If there is one buyer there is no negotiation on the price and the price is fixed |
| | | No standard grading system |
| | | If there is a high number of goats then the buyer can lower the buying price so s/he can buy more goats |

Pricing Criteria

The pricing criterion for the goats depends chiefly on the goat market, though this is not fully understood by farmers. 74% of farmers surveyed reported that size and body condition are the main criteria buyers consider when purchasing goats, followed by age and gender, as reported by 26%.

While market outlets are important to sales, it is also essential for farmers to improve their goat husbandry management techniques so that they produce the quality of goats that will have attracted a higher market value. There is an opportunity for ZRR to improve the animal husbandry techniques produce goats of better body condition score and healthier when they can attract a price perineum. Introduction of exotic goat breeds is to be discouraged due to the higher mortality and investment in these animals. Faster gains in improving assets for farmers can be obtained by improving husbandry techniques reducing mortality and allowing more goats to reach marketable.

Availability of Market Information

Due to the nature of the goat sales carried out by the farmers, the market information disseminated is mainly to do with the available markets in the area. 67% of the farmers have access to market information. Market information dissemination is mainly at local gatherings and NGO's are also a major source of information

Marketing Constraints

A number of marketing constraints affect farmers' ability to sell their goats for at fair and stable prices. These constraints include:

- Lack of transparent goat markets and marketing channels;
- Little information as to the differentiation in the market and grades of goats required by buyers
- Goats need to be cleared by the police before they can be sold; however stock clearance by police is time consuming;
- High transaction costs for the traders.
- Inability to negotiate prices with the private buyers as sales are often to raise funds for a desperate household need;
- No consistency in supply of goats in neither quality nor quantity.
- Some buyers make partial payments, and some pay in kind
- With the small herd size, it is difficult for meaningful sales to take place, as farmers often have to bargain individually; and
- No buyers buy in bulk, with the exception of the occasional auction.

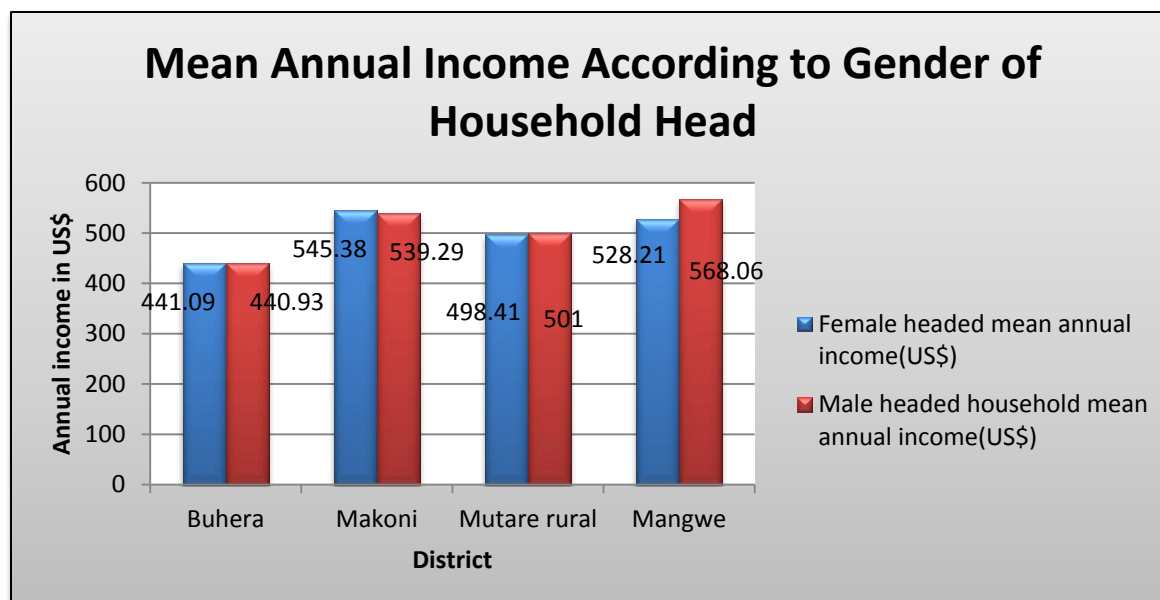
Extension Services

Farmers primarily rely on Agritex extension officers and the Community Livestock Workers (CLWs) for crop and livestock advice. In Mutare Province Districts (Mutare Rural, Buhera and Makoni), there is a Government Agritex Extension officer and a CLW (trained by Land O'Lakes in 2010) in each ward. In Mangwe District, however, there is just one LPD officer for the district.

From the qualitative interviews, focus group interviews and the key informant interviews, a concern was raised on the reliability of the extension services provided by the CLWs. The fact that the government officers are certified makes them a more reliable extension service than the CLWs, especially since they were trained in 2010 and did not receive any other refresher courses.

HOUSEHOLD INCOME AND FOOD SECURITY

The average annual household income among farmers surveyed is US\$498.64. There were no significant differences in mean annual household income between male- and female-headed households. Male headed households had an average annual income of US\$501.53 and female headed households had an average income of US\$498.64. Regionally, this average is US\$440.29 in Buhera, US\$539.68 in Makoni, US\$498.41 in Mutare Rural, and US\$528.21 in Mangwe.

Graph 3: Mean Annual Income by Gender of Household Head

It is worth noting that the true income of surveyed households could be higher than what is given in the bar chart above, as respondents generally show reluctance to provide accurate information about their income for various reasons, such as confidentiality of the information and poor record keeping at farm level, resulting in the respondents failing to recall some of the income sources. Consequently, the data on household income should be cautiously interpreted.

Income Sources

Households reported different sources of income namely agricultural and non-agricultural. Those who only depended on agriculture for their source of income constituted 69% of the total households. The majority of the households had one (39.4%) or two (37.9%) sources of income and those with three or more income sources accounted for 11.3% (figure 4).

Table 14: Average Annual Income Sources

| | Field Crops | Garden Crops | Goats Sold | Livestock Sold | Labor/Employment | Remittances | Small Business / Trade | Other Source, Gifts, informal jobs |
|--------------------------------|--------------------|---------------------|-------------------|-----------------------|-------------------------|--------------------|-------------------------------|---|
| Mean US\$ | 173.20 | 29.04 | 20.81 | 92.53 | 90.34 | 29.74 | 34.42 | 28.57 |
| Standard Deviation US\$ | 735.29 | 63.15 | 37.34 | 219.10 | 392.31 | 115.27 | 141.18 | 95.25 |

As Table 14 illustrates, surveyed households are primarily dependent on field crops, livestock sales and employment as sources of income. Goat income makes up 4.18% of the farmers' average annual income, which corresponds with the average of one goat sold over the July 2011 – June 2012 period.

During focus group discussions, farmers mentioned several off farm enterprises, including:

- Brick molding;
- Casual Labor
- Panning of tantalite in Buhera;
- Weaving and basket making;
- Carpentry; and
- Buying and selling second hand clothes.

Decision Making on Goat Income

40.55% of the surveyed households reported that in married households, males are the primary decision makers when it comes to goat income. Interestingly, 9.2% of the spouses and 15.3% of the households have joint decision making on goat income. In a portion of surveyed households, females not only provide labor for goat production, but they are also involved in decision making on goat income.

Table 15: Decision Making on Goat Income

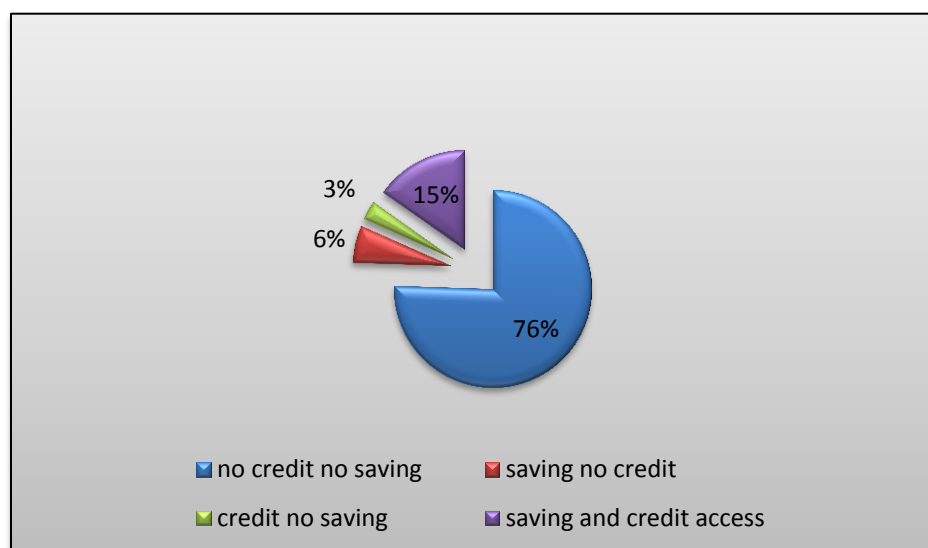
| Decision Maker | Number of Households Reporting | Percent of Households Reporting |
|-------------------------------|---------------------------------------|--|
| Male Head of Household | 53 | 40.5% |
| Female Spouse | 12 | 9.2% |

| | | |
|---------------------------------|-----|-------|
| Female Head of Household | 19 | 14.5% |
| Joint Decision Making | 20 | 15.3% |
| No Response | 27 | 20.5% |
| Total | 131 | 100% |

Access to Credit and Savings

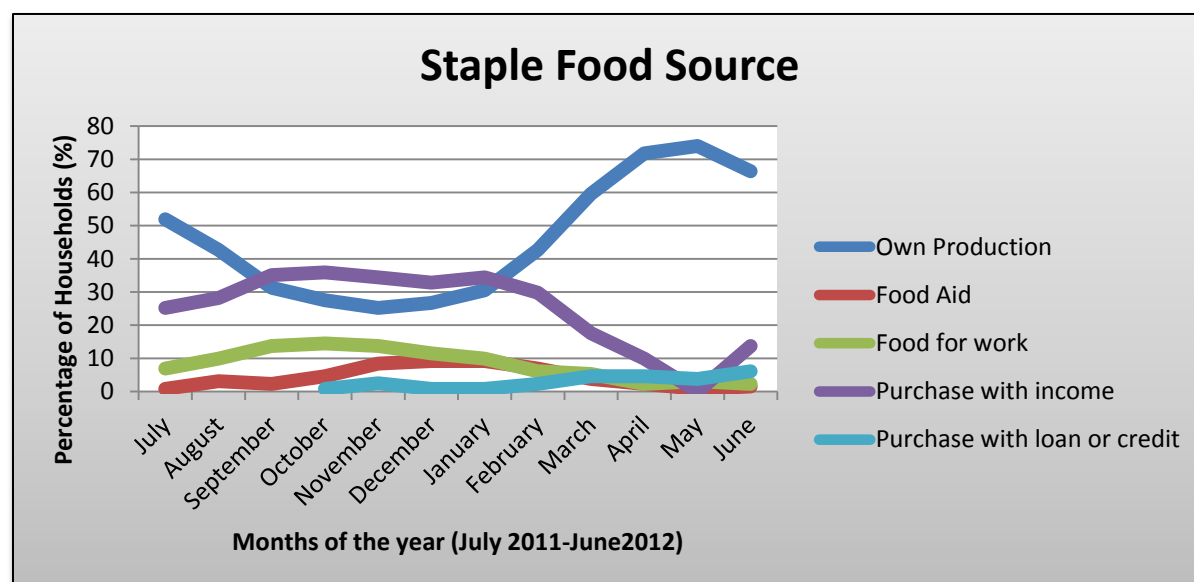
The surveyed farmers have no access to commercial bank savings and lending. However, informal savings and lending clubs exist in the 4 districts. As illustrated in Graph 4, 24.4% of households reported that they are part of the savings and lending schemes in their communities. Farmers borrow money from the club both to finance income generating activities and to buy food for the household.

Graph 4: Access to Savings and Lending



FOOD SECURITY- HDDS, MAHFP, STAPLE SOURCE

As illustrated in Graph 5, the goat project sites exhibit poor food self-sufficiency for the greater part of the year. Staple food sources are mainly acquired through farmers' own production and purchase with income. As indicated previously, a large proportion of income is generated through off-farm activities. Further, farmers also use the savings and lending clubs to purchase staple food. ZRR has an opportunity lessen food insecurity through goat production, improving the purchasing power of farmers.

Graph 5: Staple Food Sources**Months of Adequate Household Food Provisioning (MAHFP)**

In the surveyed goat sites, the average MAHFP was nine, indicating that for nine months out of the year; households are able to provide adequate food for their families.

Table 16: MAHFP by District

| District | MAHFP |
|--------------|-------|
| Buhera | 8 |
| Makoni | 9 |
| Mutare rural | 9 |
| Mangwe | 3 |
| Total sample | 9 |

Table 16 shows that the MAHFP in 3 districts is high, ranging between 8 and 9; however, Mangwe district is highly food insecure, with an MAHFP of 3. Mangwe district is a drought prone area located in the low agricultural production zone, relying mainly on rain fed agriculture. During the month of February and March 2011 there was a severe dry spell in the Mangwe District, which led to crop failure. By the month of July, most households had exhausted their food supplies and from the surveyed households, 82% were relying on food purchases as a staple source. Factors such as increased fuel prices and an increase in the price of the imported grain exacerbated the plight of the food insecure households in areas like Mangwe, resulting in high food insecurity.

Household Dietary Diversity (HDDS)

Household dietary diversity is defined as the number of different food groups consumed over a given reference period. For the current study, 12 food groups were used to calculate the HDDS. These categories were:

- Cereals;
- Fish and seafood;
- Root and tubers;
- Pulses/legumes/nuts;
- Vegetables;
- Milk and milk products;
- Fruits;
- Oil/fats;
- Meat/ poultry/offal;
- Sugar/honey;
- Eggs; and
- Miscellaneous.

Table 17: HDDS Scores by District

| District | HDDS |
|----------------------------|------|
| Buhera | 7 |
| Makoni | 7 |
| Mutare rural | 7 |
| Mangwe | 5 |
| HDDs for the sample | 7 |

Table 17 shows that from the 12 food groups, Buhera, Makoni and Mutare district households are consuming 7 food groups, and Mangwe is consuming 5 out of the 12 groups, which is very low. As mentioned in the MAHFP section, Mangwe district is prone to droughts and during the past 2 production seasons, 2010-2011 and 2011-2012, the area suffered prolonged mid-season dry spells, which resulted in crop failure; this had a negative impact on farmers, whose livelihoods depend on livestock sales as a source of income to purchase food.

CONCLUSIONS AND RECOMMENDATIONS

IR1: Increased productivity and market access of livestock asset base in vulnerable households and communities

- Farmers in the surveyed areas have a productive asset base (in terms of livestock and household goods) worth close to US\$2,000. The male-headed households have a higher value asset base than the female-headed households. This finding underscores the need to focus assistance on female headed households.
- A strategy to improve the DRR capacity of the targeted communities is to improve assets and diversify their livelihoods. Using existing animals and the introduction of others, ZRR can focus on reduction of goat mortality.
- Surveyed households suffer from a variety of livestock diseases; this, coupled by veterinary service and drug shortages, contribute to increased livestock mortality and morbidity. The program will focus on reducing mortality through improved husbandry techniques such as vaccinations, dipping, supplementary feeding (from on farm fodder) housing, and improved grazing plans in short planned production. It is thus important to:
 - Strengthen the capacity of disease surveillance programs by providing CLW training;
 - Improving access to vaccines, drugs and veterinary equipment; and
 - Improve CLW mobility.
- Tick-borne diseases, which can be controlled through dipping or spraying of the goats, are highly prevalent; this concept has not yet been adopted by farmers. The program will address this by providing access to vaccinations and other disease prevention techniques to farmers.
- Uncontrolled breeding results in kids being born in unsuitable periods of the year, resulting in high mortality. Further, on this schedule, they will reach a marketable age when household needs are low. The lack of planned goat breeding is largely because goats graze in natural veld, which results in uncontrolled breeding patterns. Farmers realize that there is a need to control breeding with inferior bucks; however, there is no community consensus on a goat breeding program, and inbreeding is regular.
- Goat supplementary feeding of concentrates is at a low level; the cost benefit of this may be explored, but it is unlikely to make rational sense as the households are very vulnerable. Farmers reported that they feed crop remains to their goats; however, the stover is usually untreated with urea to improve the crude protein content, making the stover less nutritious. One of the main constraints of livestock production that surfaced over the course of this study is the shortage of feed. Project efforts should focus on: :
 - Establishing protected gardens where more productive and nutritious grasses are produced on time; and
 - Improving the availability of water sources in areas where feed resources are underutilized.

- Improving stover treatment, to increase the nutrient content of crop residues.
- Farm gate goat marketing is very common, as very rudimentary goat markets exist. This problem is especially relevant in Mutare Rural and Makoni Districts. Farmers still practice emergency sales when they need cash. Training and market development will focus on this problem.
- There is no planned individual or group marketing of goats. Farmers complained that there is no standard grading procedure of the goats when marketing; the individual buyers decide how to grade the goats. Improving goat husbandry will result in the improvement of goat sizes and body condition. ZRR will focus on the training of farmers to better understand the market and when their own needs are to better bring in line the household needs with sales of goats.

IR2: Increased communities' capacity for and practice of sustainable rangeland management

- Grazing plans are primarily established for prevention of field crop destruction during the rainy season; plans are generally created at the household level. There are no plans to implement conservation of veld methods to minimize overgrazing and depletion of grasses.
- The Grazing plans will need to involve ALL members of the community to allow there to be meaningful impact. This will require significant investment in time to allow attitude change and involvement of all members of the society. Therefore, the project will focus on involvement of community leadership to build upon rangeland management efforts already in place; ZRR will help communities to plan grazing areas in the rainy season for conservation of the veld.
- The link between crops and livestock with regards to improved fertility and use of unusable forage will need to be emphasized when assisting in building resiliency within these communities.
- Fodder plots, which average 0.05 hectares, are too small to sustain goats throughout the dry season.
- The open range grazing lands are under threat of human settlement encroachment; if not controlled, this could result in overstocking and depletion of grazing areas. Land O'Lakes will sensitize communities in the area on the importance of reserving land for grazing and other non-settlement activities

IR3: Increased capacity of and access to animal health and livestock extension services

- In Mutare Rural, Makoni and Buhera Districts, CLWs work with farmers; however, some key informants reported that the CLW knowledge is questionable, as they are not certified by a formal college. ZRR will seek to strengthen CLW services through refresher courses, and with the assistance of Land O'Lakes staff, ensure that CLWs are

operating according to their terms of references. Retraining of CLWS and learning from their effectiveness is essential

- Development of the links between CLWs and other support stakeholders, including the private sector, will be instrumental in the success of this component.
- The farmers are not yet well versed in disease identification and treatment; hence goat mortality is high, especially for kids. Further, Disease prevention and cure is very difficult, as there is limited access to drugs and vaccines. Farmers need more training on identifying diseases so that they can report a sick goat on time and receive assistance; ZRR will incorporate this into trainings.
- ZRR will encourage CLWs to work with government extension officers so that the service is viewed as a complementary effort, rather than one competing with the government services.

APPENDIX A: THE ROLE OF WOMEN IN GOAT PRODUCTION

Objectives and Methodology

Women play an important role in the care and management of livestock. This role was highlighted in the baseline through the inclusion of gender related questions in the baseline tools. The aim of the gender assessment as part of the baseline analysis is to integrate gender into project planning, implementation, reporting, and monitoring and evaluation, with periodic progress indicators to evaluate different but interdependent roles as well as differences in power and access to resources between men and women.

Objectives of the gender assessment:

- Integrate gender into project activities and, where applicable, address gender issues, particularly at the project level.
- Ensure that sex-disaggregated data are collected where useful and feasible to use as a management tool for improving the impact of our activities. Additionally, gender relevant indicators within the PMP can capture the impact the project has on the status of women.

The gender assessment will assist the project to answer the following questions that are critical to integrating gender into our activities:

- Number of women enrolled in the project
- Who in the household decides whether goats require any veterinary care? Who pays for that care/service? (Percentage of women/men)
- Whose labor in managing the goats should be documented, as well as who is making any financial outlay for the upkeep of the goats (women or men).
- Who in the household is responsible for purchasing the supplementary feed for goats? What is the source of income to purchase this feed?
- In providing training and capacity building to goat producer groups/ associations, how many females and males participate? What role does each play in the management of the producer group or associations?
- To what extent are women's voices heard in the decision making process in the producer and marketing groups?

Characteristics of the Women Interviewed by district

The majority of female headed households are widows as shown in figure 1 below. Mutare rural and Buhera female headed households are all widows- 100%. However in Makoni 14.2% of the female headed households are in polygamous marriages, 85.8% widows and in Mangwe there are 20% in polygamous marriages and 20% de-facto female household head and 60% widows. Mangwe district is close to the Botswana border and therefore some of the men in the area have migrated to Botswana leaving their wives to make household decisions

Figure 1: Characteristics of female headed households

| District | Female respondents % | Female Household heads% | Female household heads marital status% |
|--------------|----------------------|-------------------------|--|
| Buhera | 55.4 | 12.5 | 100% widows |
| Makoni | 67.6 | 18.9 | 85.8 widows and 14.2% polygamous married |
| Mutare Rural | 51.9 | 22.2 | 100% widows |
| Mangwe | 63.6 | 45.4 | 20% de-facto household head monogamously married 20% polygamous married and 60% widowed |

Asset Ownership

Female headed households have a few household goods as shown by the percentage of females owning the household, transport and farm implements as assets. The ownership ranges between 0% - 17.6% for hoes. However a large proportion of the female headed households own livestock assets- Range is from 0% - 96% for goats. Females in male headed households own more poultry than goats as shown in figure 2 below. Ownership of poultry by females was very high at 85.8% and goats at 66%.

Figure 2: Asset ownership

| | Female headed Households n=25 | Females in Male headed Households n=106 | Joint asset ownership n=106 |
|------------------------|-------------------------------|---|-----------------------------|
| Household goods | | | |
| Cooker | 0% | | 0 |
| Fridge | 0% | | 0 |
| Radio | 9.16% | | 9.4 |
| Television | 6.1% | | 4.7 |
| DVD player | 3.05% | | 0.9 |
| Mobile telephone | 12.2% | | 6.9 |
| Sofa | 3.8% | | 2.5 |
| Sewing machine | 5.34% | | 2.8 |
| Transport | | | |
| Bicycle | 5.3% | | 5.7 |
| Farm implements | | | |
| Scotch-cart | 6.1% | | 11.3 |
| Spade | 12.98% | | 11.3 |
| Plough | 16.03% | | 21.7 |
| Spray | 1.5% | | 2.8 |

| | Female headed Households n=25 | Females in Male headed Households n=106 | Joint asset ownership n=106 |
|----------------------|--|--|--|
| Water Pump | 0% | | 0.9 |
| Planter | 0% | | 0 |
| Harrow | 2.3% | | 4.7 |
| Cultivator | 0% | | 1.9 |
| Hoes | 17.6% | | 17 |
| Sickles | 12.2% | | 10.4 |
| Livestock | | | |
| Cattle | 68% | 30.1 | 22.6 |
| Goats | 96% | 66 | 15 |
| Sheep | 8% | 4.7 | 2.8 |
| Poultry Local | 88% | 85.8 | 11.3 |
| Poultry Cross | 4% | 1.8 | 0 |
| Pig | 0% | 0.9 | 0.9 |
| Donkey | 12% | 6.6 | 0.9 |
| Rabbits | 4% | 0 | 0 |

C. Women's Contribution to Household Labor

Women in both male headed and female headed households provide family labor for the management of goats. From the surveyed households' results, kid rearing was reported by 49.6 of the households as the activity where females are involved the most. Veterinary services (19.8%) and Marketing (5.3%) are not carried out by a majority of women as shown in figure 3 below. This could be due to the fact that overall across the whole sample, veterinary service provision for goats is very low.

Figure 3: Household Labor

| Activity | % of Females Performing Activity N=131 |
|--|---|
| Construction of Livestock Shelter | 38.9% |
| Forage Production | 32.8% |
| Feed Preparation | 36.6% |
| Kid Rearing | 49.6% |
| Veterinary Services | 19.8% |
| Transportation /Marketing | 5.3% |

Marketing channels

The female headed households mainly use the farm gate selling as the main marketing channel for their goats. The business centers and the rural district council pens are not very popular

among the female headed households. This shows that there is very little planned production and marketing and these households favor the emergency ad-hoc selling of goats.

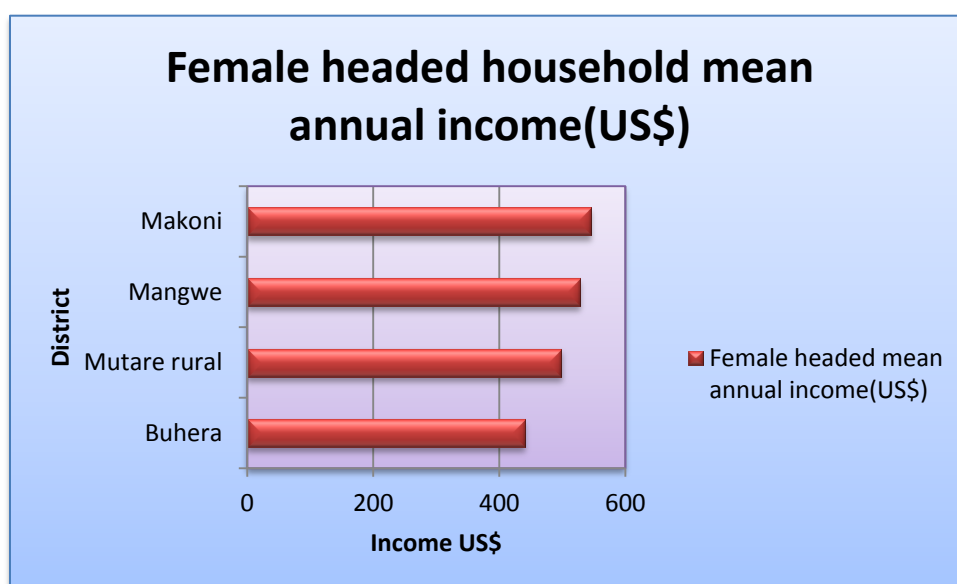
Figure 4: Market Channels

| Market Channel | Farm Gate | Rural Council Cattle Pens | District | Business Centres |
|-------------------------------|-----------|---------------------------|----------|------------------|
| % of Households Reporting Use | 72% | 8% | | 20% |

Average household income according to districts for the female headed households

The female headed households in Makoni have the highest average income per household as shown in the bar graph below at US\$545.38 Buhera has the least average income for the female headed households at US\$441.09.

Figure 5: Household income



Decision making on goat income

11.3% of the spouses and 18.9% of the households have joint decision making on goat income. This shows that there are a significant percentage of the surveyed households, where females not only provide labor for goat production, but they are also involved in decision making on goat income.

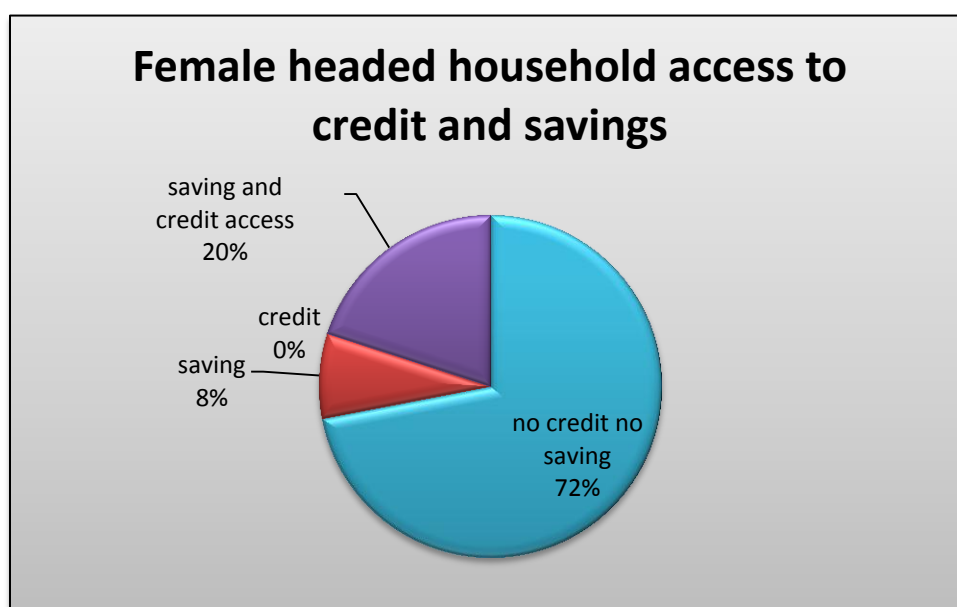
Figure 6: Decision making on household income

| Decision Maker | Number of Households Reporting | Percent of Households Reporting |
|----------------------------------|--------------------------------|---------------------------------|
| Female Spouse n=106 | 12 | 11.3% |
| Joint Decision Making n=106 | 20 | 18.9% |
| Female Head of Household n=25 | 19 | 76% |

Access to Savings and credit

72% of the female headed households have no access to both credit and savings, 0% has access to credit, 8% have access to savings only and 20% have access to informal savings and credit. This signifies that very few women are able to start up any meaningful income generation in the goat sites.

Figure 7: Savings and Credit access

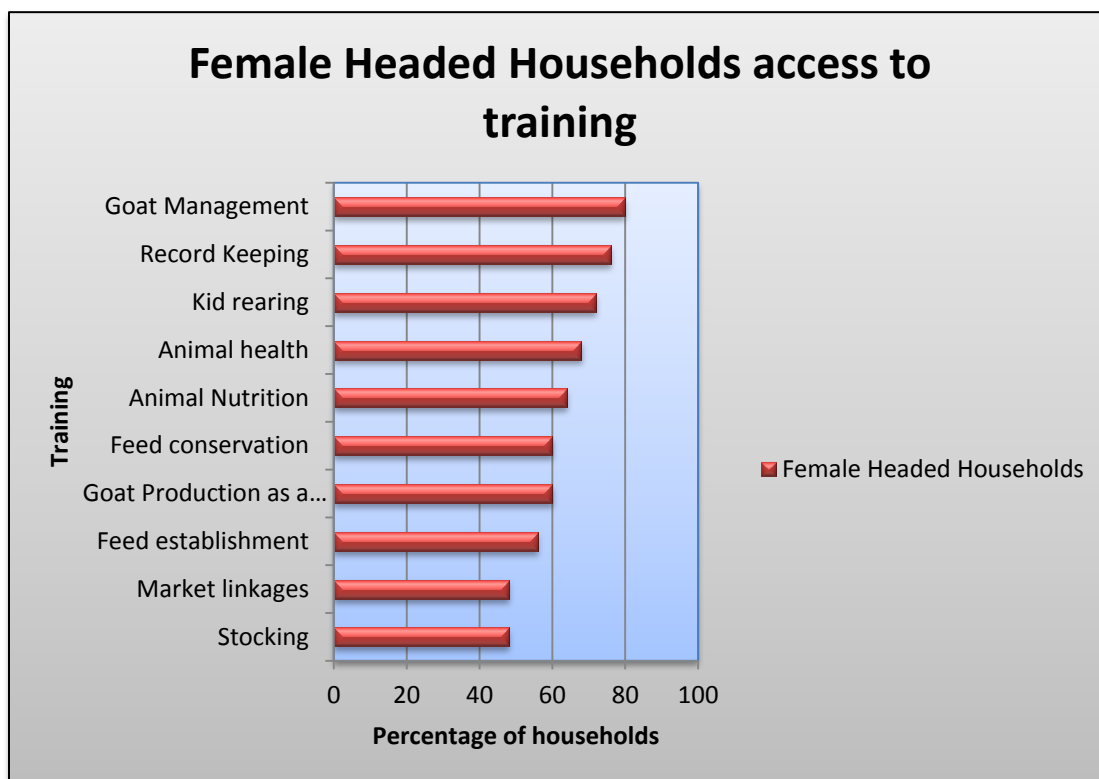


Access to extension services

The surveyed female headed households reported having received training in goat husbandry but the goat business training levels is still low. Buhera, Makoni and Mutare rural households reported to have received training. However Mangwe district reported low levels of training in goat production and business as shown by Appendix E, Poor access to extension services in Mangwe can be further explained by the existence of only one LPD officer in the Mangwe

district. The Manicaland district sites have received training from Land O'Lakes in 2010 and there are government extension agents in the wards.

Figure 8: Female Headed Households' Access to Training



APPENDIX B: RESULTS FRAMEWORK

USAID/OFDA Subsector Goal:

Indicator A: Number of animals benefitting from or affected by livestock activities

Indicator B: Number of people benefitting from livestock activities

Indicator C: Number of veterinary interventions, treatments or vaccinations administered

Indicator D: Number of animals treated or vaccinated

Project Goal: Reduce risk through enhanced institutional and community capacities to respond to and mitigate the effects of disasters, strengthen the resiliency of vulnerable communities, and reduce exposure to hazards through the effective use of goats and rangeland management.

Indicator E: Number of individuals participating in disaster risk reduction activities

Indicator F: Percentage of beneficiary households with improved productive asset base

Indicator G: Percentage of Female Headed Households with improved productive asset base

Intermediate Result 1: Increased goat production asset building and improve access to markets by vulnerable households and communities

IR1.1: Number of households trained or receiving technical assistance in goat production and marketing (Output)
IR1.2: Average value of assets (tools, livestock, domestic) in targeted participating households (Impact)
IR1.3: Number of households receiving goats from the project and participating in producer groups (Output)
IR1.4: Number of goat producer groups formed or strengthened (Output)
IR 1.5 Proportion of producer group membership comprised of females (Output)
IR16: Number of producer groups linked to markets (Output)

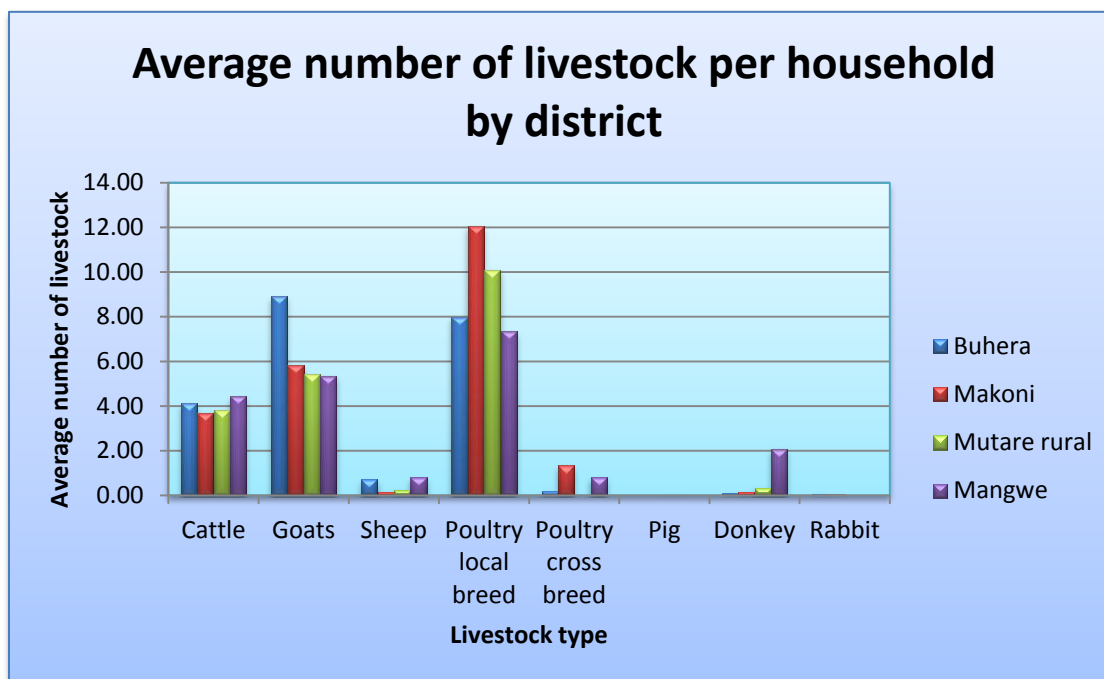
Intermediate Result 2: Increased communities' capacity for and practice of sustainable rangeland management

IR2.1: Number of CLW's trained in farm and sustainable rangeland management techniques (Output)
IR2.2: Number of people trained in improved farm and rangeland management (Output)
IR2.3: Number of grazing management plans developed and utilized by communities (Outcome)
IR2.4: Communities applying improved farm and sustainable rangeland management techniques (Outcome)
IR2.5: Number of hectares (Ha) under improved land management (Outcome)
IR2.6: Percentage of community farmers applying improved farm and sustainable rangeland management techniques (Outcome)

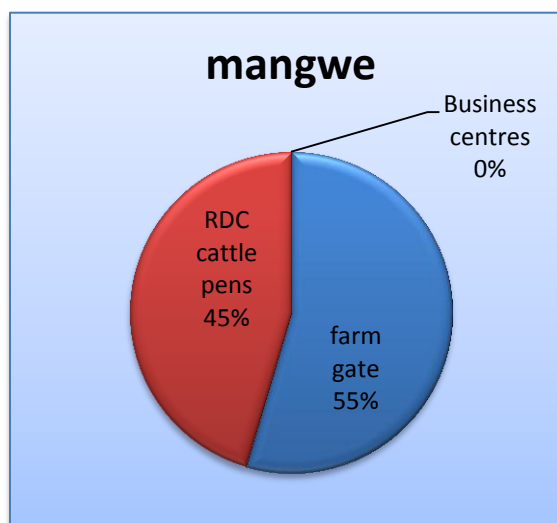
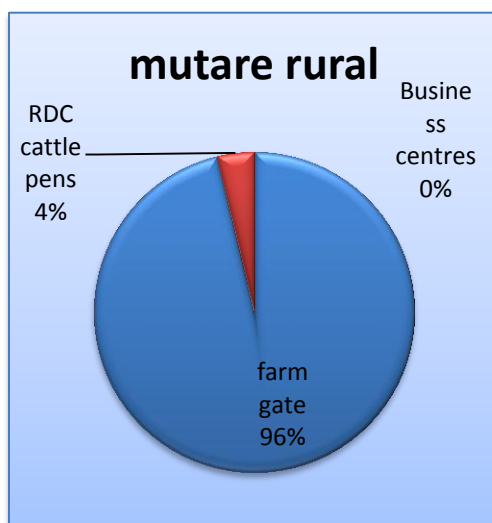
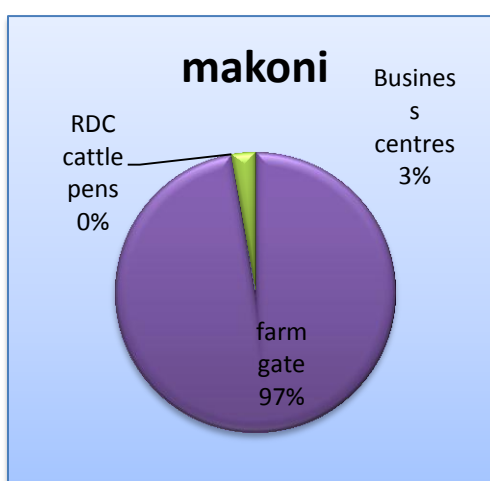
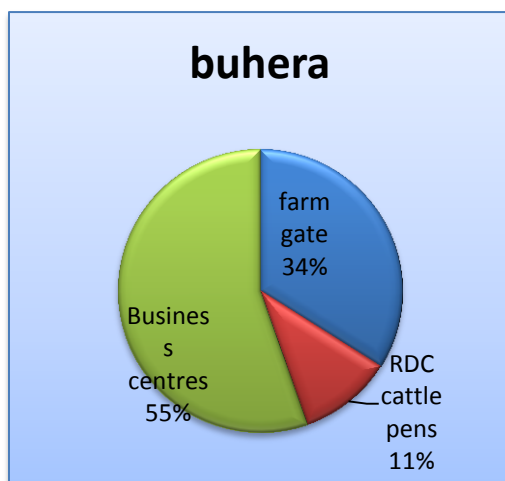
Intermediate Result 3: Increased capacity of and access to animal health and livestock extension services

IR3.1: Number of CLWs trained (Output)
IR3.2: Percentage of CLWs utilizing their training and skills to train farmers (Outcome)
IR3.3: Number of women responsible for making household decisions in veterinary care and management of their goats (Outcome)
IR3.4: Number of Households served by CLWs (Output)
IR3.5: Reduction of goat mortality rate (Outcome)

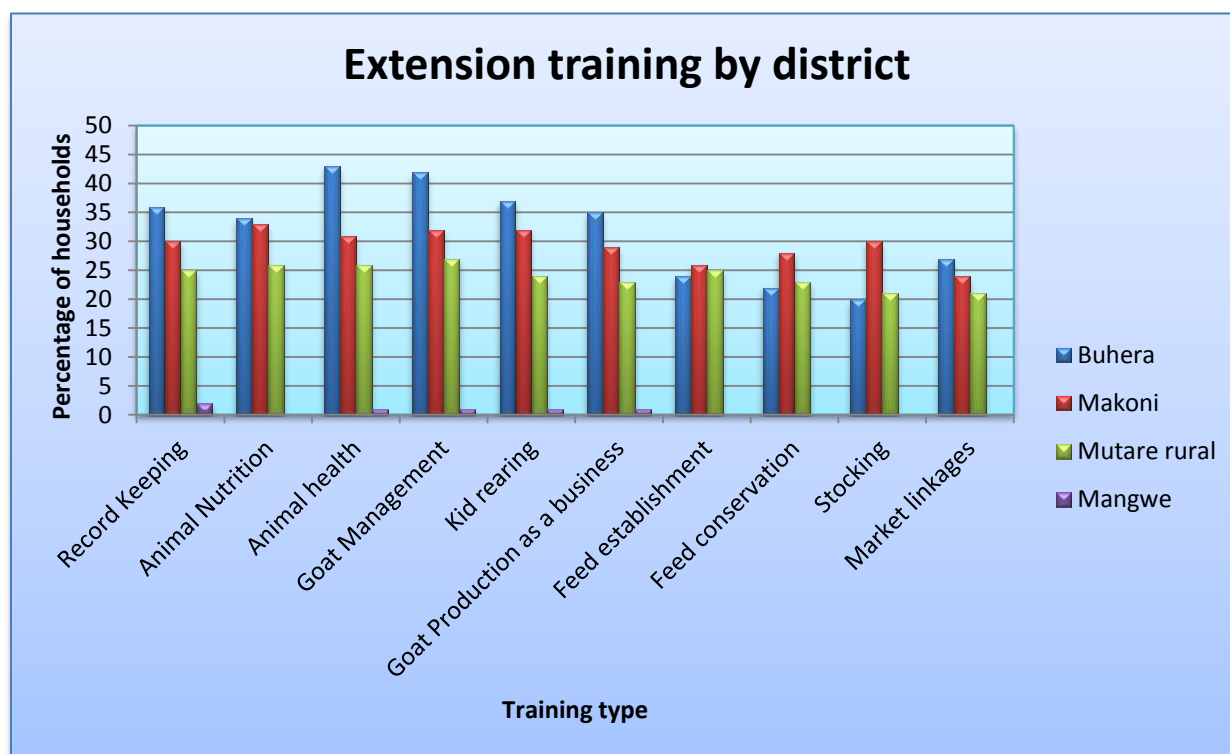
APPENDIX C: LIVESTOCK OWNERSHIP ACCORDING TO DISTRICT



APPENDIX D: MARKETING CHANNELS ACCORDING TO DISTRICT



APPENDIX E: EXTENSION SERVICES



APPENDIX F: BENCHMARKS FOR THE PMP

| | |
|---------|---|
| Project | Zimbabwe Livestock for Accelerated Recovery and Improved Resiliency |
| Code | |
| | Project Dates - 16 May 2012 - 15 May 2014 |

| | | | | | | | FY 1 - May-Sep 2012 | | FY 2 - Oct-Sept 2013 | | FY 3 - Oct-May 2014 | | Total | |
|---|---|------------------|---|--------------|----------------|--------|---------------------|--------|----------------------|--------|---------------------|--------|--------|--|
| Performance Indicator (*) | Unit of Measure | Disaggregation | Remark | Year | Baseline Value | Target | Actual | Target | Actual | Target | Actual | Target | Actual | |
| OUTCOMES | | | | | | | | | | | | | | |
| SO: Reduce risk through enhanced institutional and community capacities to respond to and mitigate the effects of disasters, strengthen the resiliency of vulnerable communities, and reduce exposure to hazards through the effective use of goats and rangeland management. | | | | | | | | | | | | | | |
| A | Number of animals benefitting from or affected by livestock activities | Number | Total | Annual Value | 2012 | 0 | 620 | | 3720 | | 1860 | | 6200 | |
| B | Number of people benefiting from livestock activities | # of individuals | Total, Gender | Annual Value | 2012 | 0 | 1240 | | 3720 | | 1240 | | 6200 | |
| C | Number of veterinary interventions, treatments or vaccinations administered | Number | Total | Cumulative | 2012 | 0 | 0 | | 1200 | | 800 | | 2000 | |
| D | Number of animals treated or vaccinated | Number | Total | Cumulative | 2012 | 0 | 0 | | 900 | | 600 | | 1500 | |
| E | Number of individuals participating in disaster risk reduction activities | # of individuals | Total, Age and gender, type of training, CLW, training of trainers, Farmer training | Cumulative | 2012 | 0 | 1240 | | 3720 | | 1240 | | 6200 | |

| | | | | | | | | | | | | | | |
|------|---|------------|---------------|--------------|------|------|------|--|------|--|------|--|------|--|
| F | Percentage of beneficiary households with improved productive asset base | Percentage | Total, Gender | Cumulative | 2012 | 0% | 0% | | 20% | | 60% | | 60% | |
| G | Percentage of beneficiary female headed households with improved productive asset base | Percentage | Total | Cumulative | 2012 | 0% | 0% | | 20% | | 60% | | 60% | |
| IR 1 | Increased goat production asset building and improve access to markets by vulnerable households and communities | | | | | | | | | | | | | |
| 1.1 | Number of households trained or receiving technical assistance in goat production and marketing | # of hh | Total, Gender | Annual Value | 2012 | 0 | 400 | | 1200 | | 400 | | 2000 | |
| 1.2 | Average value of Assets (tools, Livestock, domestic) In targeted Participating Households | US\$ | Total | Average | 2012 | 1914 | 1914 | | 1971 | | 2070 | | 2070 | |
| 1.3 | Number of households receiving goats from the program and participating in producer groups | Number | Total, Gender | Annual Value | 2012 | 0 | 0 | | 600 | | | | 600 | |
| 1.4 | Number of goat producer groups formed or strengthened | Number | Total | Annual Value | 2012 | 0 | 5 | | 10 | | 10 | | 10 | |
| 1.5 | Proportion of producer group membership comprised of females | Percentage | Total, Gender | Cumulative | 2012 | 0 | 20% | | 30% | | 30% | | 30% | |
| 1.6 | Number of producer groups linked to markets | Number | Total | Annual Value | 2012 | 0 | 0 | | 4 | | 6 | | 10 | |
| IR 2 | Increased communities' capacity for and practice of sustainable rangeland management | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|------|--|------------------|---|--------------|------|-----|------|--|------|--|------|--|------|--|
| 2.1 | Number of CLW's trained in farm and sustainable rangeland management techniques | # of individuals | Total, Gender | Annual Value | 2012 | 0 | 0 | | 50 | | 0 | | 50 | |
| 2.2 | Number of individuals trained in improved farm and rangeland management techniques | # of individuals | Total, gender, type of training, CLW, training of trainers, Farmer training | Annual Value | 2012 | 0 | 1240 | | 3720 | | 1240 | | 6200 | |
| 2.3 | Number of grazing management plans developed and utilized by communities | Number | Total | Annual Value | 2012 | 0 | 0 | | 2 | | 4 | | 6 | |
| 2.4 | Communities applying improved farm and sustainable rangeland management techniques | Number | Total | Annual Value | 2012 | 0 | 0 | | 2 | | 4 | | 6 | |
| 2.5 | Number of hectares (Ha) under improved land management | Number | Total | Cumulative | 2012 | 100 | 100 | | 1320 | | 2000 | | 2000 | |
| 2.6 | Percentage of community farmers applying improved farm and sustainable rangeland management techniques | Percentage | Total, Gender | Cumulative | 2012 | 0 | 0% | | 20% | | 50% | | 50% | |
| IR 3 | Increased capacity of and access to animal health and livestock extension services | | | | | | | | | | | | | |
| 3.1 | Number of CLW's trained | # of individuals | Total, Gender | Annual Value | 2012 | 0 | 0 | | 50 | | 0 | | 50 | |
| 3.2 | Percentage of CLWs utilizing their training and skills to train farmers | #of individuals | Total, Gender | Cumulative | 2012 | 0 | 0% | | 60% | | 60% | | 60% | |

| | | | | | | | | | | | | | | |
|-----|---|------------------|---------------|--------------|------|------|------|--|------|--|------|--|------|--|
| 3.3 | Number of women responsible for making household decisions in veterinary care and management of their goats | # of individuals | Total | Cumulative | 2012 | 1891 | 1891 | | 2170 | | 2480 | | 2480 | |
| 3.4 | Number of Households served by CLWs | # of HH | Total, Gender | Annual Value | 2012 | 0 | 0 | | 1000 | | 1000 | | 2000 | |

APPENDIX G: BASELINE SURVEY QUESTIONNAIRE

THE ENUMERATOR MUST READ AND INTERPRET THE PASSAGE BELOW TO THE RESPONDENT PRIOR TO THE INTERVIEW

LAND O' LAKES

ZIMBABWE LIVESTOCK FOR ACCELERATED RECOVERY AND IMPROVED

RESILIENCY (ZRR)

Dear Respondent,

You have been selected randomly from the many persons who are targeted for the Land O' Lakes intervention in this area. The purpose for the interview is to help us understand your current situation so that in future we plan the right activities together and measure performance.

Your participation is voluntary, please feel free to ask for clarification; in instances where you feel so strongly that you don't want to answer, you have the right to do that. All the information which you will provide will be treated as strictly confidential and will not be shown to other individuals or organizations. When we compile the report, we will not attribute any statement to you, but treat everything as general.

ASSIGNMENT RECORD:

| E-Code | Name of Enumerator | Signature | Date Interview Completed |
|--------|--------------------|-----------|--------------------------|
| | | | |

| S-Code | Supervisor's Name | Signature | Date Checked |
|--------|-------------------|-----------|--------------|
| | | | |

HOUSEHOLD QUESTIONNAIRE

July 2012

IDENTIFICATION PARTICULARS

1. Province.....

1= Manicaland 2= Matebeleland

2. District.....

1=Buhera 2=Makoni 3=Mutare Rural 4=Mangwe

3. Ward

4. Farmers Group (Association).....

5. Locality/Village

6. Name of Respondent

7. Age and Sex of Respondent.....**Age**

8. Sex (1=Male, 2=Female)

9. Marital Status of Respondent.....

1=Monogamously Married 2=Polygamous Married 3=Divorced 4=Widowed
5=Single

10. Name of Head of Household

11. Marital Status of Household head.....

1=Monogamously Married 2=Polygamous Married 3=Divorced 4=Widowed
5=Single

12. Age and Sex of Head of Household.....**Age** **Sex** (1=Male, 2= Female)

13. Have you ever been a member of an Association or other community organization?

1=Yes, 2=No

SECTION 1.0: DEMOGRAPHICS

How many people are members of this household?

1.2 How many are;

| | | | |
|--|---|--|---|
| 1.2.1 Children under 12 years (born after 2000) | | 1.2.2 Adult members (12 complete years and above) | |
| 1.2.1.1. Males | 1.2.1.2. Females | 1.2.2.1. Males | 1.2.2.2. Females |
| <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> | <input type="text"/> <input type="text"/> |

How many members of this household have been chronically ill for the last 3 months or have been living a sickly life?

What is the current occupation of the Head of the HH.....

1=Formal 2=Farmer 3=Trader 99.Other...

1.5 How long (hrs) do female/male take on goat activities...Female Male

1=1-3hr 2=4-6hr 3.=7-8hr 4=More than 8hr

1.6 What is the household monthly income?

1=USD 0- 100 2= USD101-200 3=USD 201- 300 4=Over USD
300

1.7 What type of main house does the HH live in?

1=Grass thatched 2=Iron roofed 3= Asbestos/tile roof

Asset Ownership

| 2.1 Name of Asset | 2.2 Total Number owned | 2.4 Number owned jointly | Value US\$ |
|-------------------|------------------------|--------------------------|------------|
| Domestic | | | |
| Cooker/Gas Stove | | | |
| Refrigerator | | | |
| Radio | | | |
| Television | | | |
| DVD Player | | | |
| Mobile phone | | | |
| Sofa set | | | |
| Sewing Machine | | | |
| Others (specify) | | | |
| | | | |
| | | | |
| Transport | | | |
| Car/Truck | | | |
| Motorcycle | | | |
| Bicycle | | | |
| Others (specify) | | | |
| | | | |

| 2.1 Name of Asset | 2.2 Total Number owned | 2.4 Number owned jointly | Value US\$ |
|-------------------|------------------------|--------------------------|------------|
| | | | |
| Farm | | | |
| Scotch cart | | | |
| Spades/shovel | | | |
| Ploughs | | | |
| Sprayer pump | | | |
| Water pump | | | |
| Planter | | | |
| Harrow | | | |
| Cultivator | | | |
| Tractor | | | |
| Hoes | | | |
| Sickles | | | |
| Others (specify) | | | |
| | | | |
| | | | |

SECTION 3.0: NUMBER OF EATING OCCASSIONS, STAPLE SOURCES, DIETARY DIVERSITY AND MONTHS OF INADEQUADE HOUSEHOLD FOOD PROVISIONING

What is the main staple food for the household?

1=Maize 2=Sourghum 3= Millet 4=Rapoko

What was the **main** source of the STAPLE foods for the household for each of the last 12 months?

| | | | | | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 3.2. MONTHS | | | | | | | | | | | |
| June 12 | May 12 | April 12 | March 12 | Feb 12 | Jan 12 | Dec 11 | Nov 11 | Oct 11 | Sept 11 | Aug 11 | Jul 11 |
| 3.2.1 | 3.2.3 | 3.2.3 | 3.2.4 | 3.2.5 | 3.2.6 | 3.2.7 | 3.2.8 | 3.2.9 | 3.2.10 | 3.2.11 | 3.2.12 |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Codes:

0=None

1=Own production

2=Purchase with income

3=Food Aid

4=Gift

5=Bartering commodities with food.

6=Purchase with Loan/credit

7=Selling assets to buy food

8=Purchase from remittances

10=Working for food

99=Other (Specify)

Household Dietary Diversity Score - HDDS): Now I would like to ask you about the types of foods that you or anyone else in the household consumed yesterday and the day before yesterday? **NOTE:** Firstly establish that these days were **normal** or **usual** days and not **Special** days

| | | | |
|------------------------|------------|---|---|
| 3.3.1. FOOD CODE | FOOD TYPES | 3.3.2. Did your household consume these food types Yesterday | 3.3.3. Did your household consumed these food types the day before Yesterday |
| | | 1=Yes, 0=No | 1=Yes, 0=No |

| | | | |
|---|--|--|--|
| A | Sadza | | |
| B | Any potatoes, yams, manioc, cassava or | | |

| | | | |
|---|--|--|--|
| | any other foods made from roots or tubers? | | |
| C | Any vegetables? | | |
| D | Any fruits? | | |
| E | Any beef, pork, lamb, goat, rabbit wild game, chicken, duck, or other birds, liver, kidney, heart, or other organ meats? | | |
| F | Any eggs? | | |
| G | Any fresh or dried fish or shellfish? | | |
| H | Any foods made from beans, peas, lentils, or nuts? | | |
| I | Any cheese, yogurt, milk or other milk products? | | |
| J | Any foods made with oil, fat, or butter? | | |
| K | Any sugar or honey? | | |
| L | Any other foods, such as condiments, coffee, tea? | | |

3.4(Month of Inadequate Household Food Provisioning – MIHFP) Now I would like to ask you about your household's FOOD supply during different months of the year. When responding to these questions, please think back over the last 12 months. (*FOOD supply refers to food that may have been produced, purchased, gifted etc...*)

| | QUESTIONS AND FILTERS | CODINGS | SKIP |
|----|---|-----------|-----------------------|
| 1. | In the past 12 months, were there months in which you did not have enough FOOD to meet your family's needs? 1=Yes 0=N0 | ___ | IF NO GO TO 4.1 |

| | | | |
|----|---|-----------|--|
| 2. | DO NOT READ THE LIST OF MONTHS. PLACE A ONE IN THE BOX IF THE RESPONDENT IDENTIFIES THAT MONTH AS ONE IN WHICH THE HOUSEHOLD DID NOT HAVE ENOUGH FOOD TO MEET THEIR NEEDS. If yes, which were the months (in the past 12 months) in which you did not have enough FOOD to meet your family's needs? | | |
| A | June 2012 | A..... __ | |
| B | May 2012 | B..... __ | |
| C | April 2012 | C..... __ | |
| D | March 2012 | D..... __ | |
| E | February 2012 | E..... __ | |
| F | January 2012 | F..... __ | |
| G | December 2011 | G..... __ | |
| H | November 2011 | H..... __ | |
| I | October 2011 | I..... __ | |
| J | September 2011 | J..... __ | |
| K | August 2011 | K..... __ | |
| L | July 2011 | L..... __ | |

SECTION 4.0: LIVESTOCK Ownership

4.1 Has your household ever received any Goats from the Land O'Lakes pass on scheme?

1=Yes

0=No

If No. go to 4.3

4.2. How many goats have you received from LOL?

| 4.2.1. Goat name/ number | | 4.2.2. Date received (MM/YYYY) | | | 4.2.3. Recipient in household 1=Male 2=Female |
|--------------------------|-----|--------------------------------|------|------|---|
| NAME | No. | Month | Code | YEAR | |
| | | | | | |
| | | | | | |
| | | | | | |

4.3. Do you own any other livestock? (Yes =1, No =0)

(If answer is 'Yes' please fill in the Table below, if 'No' skip to question 4.3)

| Livestock Species | 4.3.1 Number owned by the household (total) | 4.3.2 Number owned by male | 4.3.3 Number owned by female | 4.3.4 Number owned jointly | 4.3.5 Total Value sold in the past year USD (July 2011 - June 2012) | 4.3.6 Price per livestock type sold | 4.3.7 Total cost of transport, labour, levies, permits, slaughter fees, herding while awaiting slaughter incurred during selling |
|-------------------|---|----------------------------|------------------------------|----------------------------|--|-------------------------------------|--|
| | | | | | | July 2011 – June 2012 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| | | | | | | | | in the year (USD) (July 2011- June 2012) |
|----------------|-------------------|--|--|--|--|--|--|--|
| Cattle | Local | | | | | | | |
| | Cross / exotic | | | | | | | |
| Goats | Local | | | | | | | |
| | Cross/ exotic | | | | | | | |
| Sheep | Local | | | | | | | |
| | Cross/ exotic | | | | | | | |
| Poultry | Local | | | | | | | |
| | Cross/ exotic | | | | | | | |
| Pig | Local | | | | | | | |
| | Cross/ exotic | | | | | | | |
| Donkeys/Horses | | | | | | | | |
| Rabbits | | | | | | | | |

| | | | | | | | |
|----------------|--|--|--|--|--|--|--|
| Other, specify | | | | | | | |
|----------------|--|--|--|--|--|--|--|

4.4 Goat Management

4.4.1 What is the area that has been put under forage production in ha.....

4.4.2 What is the main method of grazing the goats.....

1=Open range 2=Paddock grazing 3=Zero grazing 99=other
(Specify) _____

4.4.3 What type of feed do you mainly feed the goats on?

1=Natural pasture 2=Cultivated pasture 3=Fodder
3=Supplements 99=Other specify _____

4.4.4 How many times have your goats (if any) been vaccinated or treated for any disease or received any known and approved veterinary intervention in the last 12 months?

| 4. 4.4a Veterinary intervention | Number of times the animals benefitted | | | |
|---------------------------------|---|-----------------|-------------------------------|----------------------|
| | 4.4.4 .b By the Department of Agriculture | 4.4.4.c By CLWs | 4.4.4d By other veterinarians | 4. 4.4.e By yourself |
| Vaccinations | | | | |
| Dipping | | | | |
| De-worming | | | | |

4.4.5 How many of your goats (if any) been treated for any disease or received any known and approved veterinary intervention in the last 12 months?

| 4.4.5a Veterinary intervention | Number of animals which benefitted | | | |
|--------------------------------|------------------------------------|------------|------------------|------------|
| | 4.4.5 .b By the | 4.4.5.c By | 4.4.5 d By other | 4.4.5.e By |

| | Department of Agriculture | CLWs | veterinarians | yourself |
|-----------------------------------|---------------------------|------|---------------|----------|
| Treatment for disease | | | | |
| Artificial insemination | | | | |
| De-horning | | | | |
| Castration | | | | |
| Any other veterinary intervention | | | | |

4.4.6 How many goats have died between July 2011 and June 2012?

4.4.6.1 Adults

4.4.6.2 Young kids

4.4.6.3 What do they die from?

1=pulpy kidney 2=tick borne diseases 3=internal parasites 4=Pneumonia 5= other specify.....

4.4.6.4 Which season has the highest rate of mortality?

1=Summer 2=Autumn 3=Winter

4.4.7 Reproduction: We want to talk about 3 of your does' reproduction

| | | | |
|--|-------------|-------------|-------------|
| | 4.4.7aDoe 1 | 4.4.7bDoe 2 | 4.4.7cDoe 3 |
|--|-------------|-------------|-------------|

| | | | |
|-------------------------------------|--|--|--|
| Litter size | | | |
| ii. Number of matings per pregnancy | | | |
| iii. Age at first kidding | | | |
| iv. Kidding interval | | | |
| v. Seasonality of kidding | | | |
| vi. Abortion rate | | | |
| vii. seasonality of abortion | | | |

4.4.8 LIVESTOCK SUPPORT & OTHER INFRASTRUCTURE

| 4.4.10a Structure | 4.4.6.b Number/Kg owned |
|--------------------------------|-------------------------|
| Livestock drinking trough (#) | |
| Goat Housing (#) | |
| Livestock feeding trough (#) | |
| Feeding paddocks (#) | |
| Stock feed stored (Kg) | |
| Sprayer (for ticks and others) | |
| Other, specify: | |
| | |
| | |

4.4.9 ACCESS TO WATER, FEED & DIPPING SERVICES

| | 4.4.11a Immediately accessible =1 | 4.4.11 b Takes a few hours (1 to 2 hours) = 2 | 4.4.11c Takes several hours (more than 2 hours) =3 | 4.4.11d Not accessible in this community =4 |
|---|--|---|---|--|
| 4.4.8.1 How do you rate access to water for livestock? | | | | |
| 4.4.8.2. How do you rate access to pasture for livestock? | | | | |
| 4.4.8.3 How do you rate your access to dipping services? | | | | |

4.5: Rangeland Management

4.5.1 How do you decide where to graze the livestock during

Dry season.....

Wet season.....

1=Male household head 2=Female household head 3=Spouse 4=Community 5=Other specify

4.5.2 What differences have you realized in the veld and communal grazing over the last 5 years?

.....

4.5.3 What are the top 3 challenges in open communal grazing?

.....

4.5.4 What are your perceptions towards open grazing with regards to improving your livestock production and improving your livelihood?

.....

.....

.....

4.5.5 How are the goats housed at night?

1=Free range 2=in a goat house renovated once a year 3=in a goat house renovated twice per year 4=Paddock 5=Other Specify.....

SECTION 5.0: LABOUR ACTIVITIES for Livestock

5.1 5.1.1 Now I would like to find out about labour for your Livestock rearing activities during the last 6 months: (**Enumerator:** Note that if the respondent says YES in 5.1.1.a, continue with the rest of the questions, otherwise go to the next labour activity)

| 5.1.1.a. Labour Activity | 5.1.1.b. Did the household use any labour for.... 1=Yes 0=No | 5.1.1.c. Labour type | 5.1.1.d. Number of Males who provided labour for this activity | 5.1.1.e. Number of female who provided labour for this activity | 5.1.1f Cash payment/Value of in kind payment for hired labor in the past 6 months |
|-------------------------------------|---|-------------------------|---|--|---|
| 1=Construction of livestock shelter | | | | | |
| 3=Forage production | | | | | |
| 4=Feed Preparation | | | | | |
| 5=Kid rearing | | | | | |
| 6=Veterinary Services | | | | | |
| 7=Transportation/ Marketing | | | | | |

Codes for 5.1.1.c

1=Household labour/members

2=Hired labour for in kind payment

3=Hired labour for cash payment

4= Permanent workers

99=Other (Specify)

5.1.2.1 How many permanent workers working with goats do you have? Male Female

5.1.2.2 How much do you pay the permanent workers per month?.....

SECTION 6.0: GOAT MARKETING

6.1 What are the main markets for goats in the area?

1.= farm gate 2=RDC cattle sales pen 3=Collection point 4=Business center 5= Other(specify)

6.1.1 What are the advantages of the main goat market options?

.....
.....
.....

6.1.2 What are the disadvantages of the main goat market options?

.....
.....
.....

6.2 How many goats were sold by the farmer in the past year –(July 2011 -June 2012)

6.2.1What were the reasons for selling the goats

1=to pay school fees 2= health expenses 3=to purchase food 4= funeral expenses
5=paying lobola 6=other -specify

.....

6.2.2 Who decides how to use the goat income?

1=Male head of household 2=Female spouse 3= Female head of household 4=In monogamous and polygamous marriages- Both male and female

6.3 What are the goat buyer profiles?

1=livestock traders 2=farmers 3=local consumers 4 =Other specify

6.4 What is the pricing criteria used when selling the goats?

1=sex 2=size 3=body condition 4= age 5=other specify
.....

6.5 Are farmers able to access market information for goats?

1=Yes 2= No

6.5.1 What are the sources of information for goat markets?

1= farmers 2=livestock traders 3=local gatherings 4=local authorities 5= Extension officers 6 =Non-governmental organizations 7=Other specify

6.6 What are the challenges in goat marketing?

1= Low prices 2=lack of formal markets 3=small flock size 4=joint ownership/family bureaucracy 5=other(specify)
.....
.....

SECTION 7.0: HOUSEHOLD INCOME & ACCESS TO SAVINGS AND CREDIT

| 7.1. HOUSEHOLD INCOME | |
|-----------------------|---|
| Source of income | Total income (USD) from current season (July 2011 to June 2012) |

| | |
|--|--------------------|
| All field crops sold | |
| All garden crops & citrus fruits sold | |
| Goats sold | |
| Other Livestock sold | |
| Labor/Employment | |
| Remittances | |
| Small Business/Trade | |
| Other sources of income (gifts, piece works, trading in non-agriculture, etc) | |
| 7.2. ACCESS TO CREDIT AND SAVINGS | |
| <p>I have no access to credit and do not save = 1</p> <p>I have access to savings only = 2</p> <p>I have access to credit only = 3</p> <p>I have access to both credit and savings = 4</p> | <p>INSERT CODE</p> |

SECTION 8.0: EXTENSION SERVICES

8.1. I would like to ask you about the technical assistance services that you or any other member of your household have received in the past 12 months (July 2011- June 2012)

| 8.1.1. Service | 8.1.2. Did someone in the HH receive technical assistance on . . . ? 1=Yes 0=No | 8.1.3. Have someone in the HH used/ applied this technical assistance? 1=Yes 0=No | 8.1.4. Do you and your family members think the technical assistance is useful? 1=Yes 0=No | 8.1.5 Other Main source of this technical assistance 1=Govt extension officers 2=NGO (specify) 3=Private (e.g. vets) 4=CLWs 99=Other (specify) |
|---|---|---|--|---|
| 1) Record Keeping | | | | |
| 2) Animal Nutrition | | | | |
| 3) Animal Health | | | | |
| 4) Goat Management | | | | |
| 5) Kid Rearing | | | | |
| 6) Goat production as a business | | | | |
| 7) Feed establishment | | | | |
| 8) Feed Conservation | | | | |
| 9) Stocking | | | | |
| 10) Market Linkages (Selling Goats on auctions) | | | | |

If 8.1.4 has at least a YES response, then:

8.2 Is there anything you want to say about the technical extension services provided

.....
